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A FEVER RESEMBLING A MILD FORM OF TYPHUS FEVER.

By F. T. WHEATLAND, M.B., B.S. (Melbourne),
Medical Officer in Charge, Commonwealth Health
Laboratory, Toowoomba, Queensland;
Honorary Pathologist, Toowoomba
General Hospital.

ALTHOUGH cases of typhus fever have occurred on ships arriving in Australia and occasionally in the earlier years amongst the resident population, there has been no epidemic of the disease in this country since 1860. In past ages severe epidemics have occurred in Europe and parts of Asia, more particularly in times of famine and war. During the Great War outbreaks occurred in prison camps in Germany and since the war it has occurred in epidemic form in Russia and the Balkan States and in South Africa. A virulent form is met with in Mexico where it is known as "*tabardillo*." Osler states that the mortality from typhus fever varies from 12% to 20%.

Brill,⁽¹⁾⁽²⁾ in New York, described a series of two hundred and twenty-five cases of a mild form of typhus fever with only one death. He regarded it as a distinct disease from typhus fever, but Anderson and Goldberger⁽³⁾ successfully inoculated

monkeys with the virus of this disease; these monkeys subsequently proved immune to inoculations of virus from patients suffering from *tabardillo*. Monkeys inoculated with the virus of *tabardillo* subsequently proved immune to inoculations of virus from patients suffering from Brill's disease, thus proving the identity of the two diseases.

It has been proved that typhus fever is conveyed by the body louse (*Pediculus corporis*) and sometimes by the head louse (*Pediculus capitis*). The virus is filterable and is infective for monkeys and guinea pigs. Ricketts and Wilder,⁽⁴⁾ Arkwright, Bacot and Duncan,⁽⁵⁾ and Arkwright and Bacot⁽⁶⁾ have described small bodies, called Rickettsia Prowazeki which occur in the bodies of infected lice and which, they maintain, are the causal organisms of typhus fever. There are other fevers, somewhat resembling typhus fever, which are also probably caused by Rickettsia bodies. These include Rocky Mountain spotted fever which is conveyed by a tick (*Dermacentor venustus*), Japanese river fever which is conveyed by a mite (*Trombidium aka mushi*) and trench fever which is conveyed by a louse (*Pediculus corporis*).

In 1922, Hone⁽⁷⁾ reported a series of cases of fever which very closely resembled Brill's disease. These cases occurred in Adelaide. In these cases, however, there was no evidence of louse infestation and

the question arose of how the disease was conveyed from one person to another. In this series of sixteen cases all the patients were males and in practically all cases it was possible to establish the fact that the patients had been in contact with weevily wheat. In no case was it possible to exclude such contact. On this account Hone thought that possibly the disease was conveyed by the weevil. In 1923 the same author⁽⁸⁾ reported a further series of twenty cases, in seven of which the patients were females. In this series also there was no evidence of infestation by lice. On investigation of these cases the apparent connexion with weevil infested wheat broke down and the theory that the disease was conveyed by weevils was abandoned. It is not known how the disease is transmitted, but it is thought that there is probably an insect intermediary host.

The serum of patients suffering from typhus fever possesses the extraordinary power of agglutinating emulsions of a strain of *Bacillus proteus* known as *Bacillus proteus* X 19. This bacillus was originally isolated by Weil and Felix from the urine of a patient suffering from typhus fever to which disease, however, it bears no ætiological relationship, being only a secondary invader. This agglutination test is known as the Weil-Felix test. The reaction is present in over 90% of cases of typhus fever and, so far as is known, it is not present in any other disease with the possible exception of Rocky Mountain spotted fever. Whether the test has been carried out with serum from patients suffering from trench fever and Japanese river fever is not known. No agglutination occurs with sera from other febrile diseases nor with normal sera.

The Toowoomba Cases.

Towards the end of May and beginning of June, 1925, several patients were admitted to the Toowoomba Hospital who were thought to be suffering from typhoid fever or paratyphoid fever. Specimens of serum from these patients were sent to the laboratory for Widal tests, but they always failed to agglutinate *Bacillus typhosus* and *Bacillus paratyphosus* A and B. It was evident from the clinical signs that these were not typical cases of typhoid fever and in view of the consistent absence of reaction to the Widal tests another diagnosis was sought. It was then realized that the condition resembled very closely that of the cases reported from Adelaide and it was decided to try the Weil-Felix reaction. The result proved to be positive and serum from every case in which the test has been carried out, has agglutinated emulsions of *Bacillus proteus* X 19 in dilutions varying from 1 in 80 to 1 in 10,240.

Distribution and Number of Cases.

As will be seen from Table I. the majority of cases in this series has come from places outside Toowoomba. Of the thirty-eight patients admitted to the Toowoomba and Saint Vincent's Hospitals only four have been residents of Toowoomba. In order to get an idea of the total number and geographical dis-

tribution of patients letters were sent to medical men practising outside Toowoomba in the area served by this laboratory, asking them whether they had met with any similar cases in their practices and, if so, how many patients they had seen. Altogether thirty letters were sent out and fifteen replies were received. These replies together with the records of patients admitted to the Toowoomba hospitals show that in addition to Toowoomba itself cases have occurred at Kingsthorpe, Oakey, Jondaryan, Dalby, Aubigny, Drayton, Westbrook, Wyreema, Pittsworth, Brookstead, Milmerran, Tumaville, Greenmount, Clifton, Rossvale, Athol, Rocky Creek, Wellcamp and Mount Evelyn. In addition several cases of a fever probably identical with the one which is the subject of this paper, have occurred in Warwick. These places are all within about a fifty mile radius west and south of Toowoomba. They vary in height above sea level from about eleven hundred to over two thousand feet.

From the replies to the letters received and from information gathered from medical men practising in Toowoomba, it is estimated that there have been about two hundred cases of this fever.

Sex.

Males and females are both affected. Of the thirty-eight patients who have passed through the Toowoomba and Saint Vincent's Hospitals, twenty-eight have been males and ten females.

Age.

Children and adults are both affected. The youngest among the hospital patients was seven and the oldest seventy-seven years of age.

Symptoms and Signs.

The onset may be gradual or fairly acute. The patient can usually name a definite day on which the illness commenced, but it will be noticed on reference to Table I. that he has usually been ill for about a week before he comes into hospital.

The most prominent symptom is headache. This is usually frontal and is much more severe and lasts longer than the headache in typhoid fever. It is usually severe enough to cause insomnia during the first week or ten days of the illness. Generalized aches in the body and limbs are frequent causes of complaint. Rigors are not uncommon at the onset and may occur during the course of the disease. Vomiting frequently occurs in the first few days. The temperature on admission to hospital is usually about 39° C. to 39.5° C. and falls as a rule by rapid lysis and sometimes by crisis on the twelfth to the fourteenth day of the disease. The pulse is usually somewhat slow in comparison with the temperature, varying as a rule between ninety and one hundred beats a minute. The tongue early becomes thickly coated and later, dry and brown. There is a characteristic odour about the patients.

In some cases the spleen has been definitely enlarged, but in the majority it has not been palpable.

Injection of the conjunctivæ has been noticed almost invariably. A few patients have complained

of dimness of vision. A macular rash appears on about the fifth to the seventh day of the disease. At first this looks like the rash of typhoid fever, but it soon becomes too widely distributed for that. It appears first on the abdomen and chest, then spreads to the back and limbs. In only one case has it spread to the face. The rash consists of rose red macules which do not disappear entirely on pressure. Petechiæ have not been observed. The rash usually disappears about the time the temperature falls to normal.

The Blood.

A slight leucocytosis of 10,000 to 13,000 occurs. Differential counts of leucocytes reveal nothing abnormal. Blood cultures, made during the febrile stage, have always proved sterile.

Weil-Felix Reaction.

With two exceptions the Weil-Felix reaction has been carried out with blood serum from all patients. The serum in progressive dilutions is titrated against an emulsion of *Bacillus proteus* X 19. The technique employed has been that described by Bull⁽⁹⁾ and is as follows: The patient's serum is first diluted one in ten. A series of small tubes is placed in a row. Starting from the left, one volume of saline solution is placed in each tube except the first. One volume of diluted serum is then put in each of the first and second tubes and that in the second tube thoroughly mixed with the saline solution. One volume from the second tube is then taken and put in the third tube and mixed. One volume from this is transferred to the next tube and so on. The right hand tube contains no serum, but one volume of saline solution and serves as a control. One volume of the bacterial emulsion is then added to each tube and mixed. This makes the final dilutions in the tubes, 1 in 20, 1 in 40, 1 in 80, 1 in 160 and so on. The tubes are then placed in the water bath and kept at 37° C. for two hours and then removed. The result is read after they have been standing at room temperature for two hours and again after standing overnight. The bacterial emulsion is made by washing off in saline solution the growth from an eighteen to twenty-four hours old agar culture of *Bacillus proteus* X 19 and diluting the emulsion so obtained until it contains about three thousand million organisms per cubic centimetre. A fresh emulsion is made up for each day's tests.

Serum from all the patients tested has agglutinated the emulsion of *Bacillus proteus* X 19 completely in dilutions varying from 1 in 80 to 1 in 10,240. The specimens of serum have also been titrated against emulsions of *Bacillus typhosus*, *Bacillus paratyphosus* A and B, but no agglutination has occurred.

Urine and Fæces.

Cultures made from urine and fæces have never yielded any pathogenic microorganism. A slight degree of albuminuria lasting only for a few days, has been observed in a few cases. Mathieson and Leete⁽¹⁰⁾ in describing a small outbreak of typhus

fever in England laid emphasis on the presence of a reaction to the diazo test as a diagnostic point. This test was carried out in the majority of the present series of cases and repeated at various stages of the illness, but no reaction was obtained.

Mortality.

There has been only one death in the series of hospital cases. This occurred in a woman, sixty-eight years of age, who had pneumonia as a complication (Case 19). It was not possible to make any *post mortem* examination. In addition the writer has heard of three deaths from this disease amongst patients who have not come into hospital. All these deaths occurred in elderly people. On the estimate of two hundred cases the mortality would thus be 2%.

Discussion.

Owing to the resemblance between this disease and typhus fever and to the fact that the latter is known to be transmitted by lice, patients on admission to hospital were carefully examined for any evidence of louse infestation. Their clothing was also examined. In no case were any lice found, so that it is evident that this disease is not transmitted by lice.

The disease is not contagious. It is the exception for more than one case to occur in a house and although no special precautions have been taken, no nurse who has been attending patients, has been affected.

Since early in the year swarms of mice have infested the farms in this district. As many as twenty thousand mice could be caught on a farm in one night. At about the time that cases of this fever first came under notice the mice had commenced to die off in large numbers. Owing to the apparent connexion between the dead and dying mice and the occurrence of the fever, the latter was spoken of in the district as "mouse fever."

It will be seen from Table I. that out of twenty-eight male patients twenty have been farmers and on all their farms mice were very prevalent. Of the other male patients, two (Cases 5 and 29) were labourers employed by the Wheat Board, handling wheat which was infested by mice; one (Case 9) was a schoolboy who lived on a farm and used to work amongst mouse infested chaff; two persons (Cases 23 and 24) were employed at the Malt House in Toowoomba, where they were handling grain sent from the country in railway trucks in which there were thousands of mice; one (Case 25) was a boundary rider and mice had been very numerous round his residence and one was a horse trainer and mice were also plentiful at his residence.

Of the ten female patients nine came from farming districts and in all of these there was a definite history of mouse infestation of their homes. The other female patient (Case 12) was a schoolgirl who lived in Toowoomba and no history of contact with mice could be obtained in regard to her.

It will thus be seen that of the thirty-eight patients in this series, thirty-four came from places outside Toowoomba where the mice were very prevalent and

TABLE I.

No.	Initials.	Sex.	Age.	Residence.	Occupation.	Onset.	Admission to Hospital.
1	J.McK.	Male	45	Milmerran	Farmer	June 7, 1925	June 24, 1925
2	J.H.	Male	27	Brookstead	Farmer	June 7, 1925	June 14, 1925
3	J.P.	Male	23	Oakey	Farmer	June 9, 1925	June 16, 1925
4	W.S.	Female	35	Milmerran	Home duties	June 10, 1925	June 24, 1925
5	L.A.	Male	27	Brookstead	Labourer (Wheat Board)	June 13, 1925	June 21, 1925
6	R.T.	Male	31	Brookstead	Farmer	June 14, 1925	June 21, 1925
7	R.M.	Female	42	Wyreema	Home duties	June 14, 1925	June 22, 1925
8	D.D.	Male	38	Westbrook	Farmer	June 21, 1925	June 28, 1925
9	R.P.	Male	14	Rossvale	Schoolboy	June 28, 1925	July 5, 1925
10	P.K.	Male	35	Tummalville	Farmer	June 28, 1925	July 8, 1925
11	E.R.	Female	36	King's Siding	Home duties and gatekeeper	June 30, 1925	July 13, 1925
12	M.S.	Female	13	Toowoomba	Schoolgirl	July 3, 1925	July 7, 1925
13	J.S.	Male	68	Kingsthorpe	Farmer	July 8, 1925	July 14, 1925
14	A.K.	Female	45	Drayton	Home duties	July 10, 1925	July 16, 1925
15	U.L.	Female	7	Aubigny	Schoolgirl	July 2, 1925	July 10, 1925
16	G.L.	Female	12	Aubigny	Schoolgirl	July 8, 1925	July 11, 1925
17	E.C.	Male	19	Newtown	Farmer	July 11, 1925	July 14, 1925
18	P.S.	Male	39	Westbrook	Dairy farmer	July 16, 1925	July 26, 1925
19	E.B.	Female	68	Athol	Home duties		July 16, 1925
20	A.H.	Female	23	Brookstead	Home duties	July 16, 1925	July 26, 1925
21	H.P.	Male	40	Kingsthorpe	Farmer	July 24, 1925	July 27, 1925
22	F.B.	Male	28	Clifton	Farmer	July 24, 1925	August 1, 1925
23	M.O.C.	Male	15	Toowoomba	Labourer at malt house	July 26, 1925	
24	R.S.	Male	55	Greenmount	Farmer	July 26, 1925	July 30, 1925
25	J.B.	Male	67	Jondaryan	Boundary rider	July 31, 1925	August 3, 1925
26	A.K.	Male	32	Rocky Creek	Farmer	August 1, 1925	
27	W.G.	Male	54	Wellcamp	Farmer	August 1, 1925	August 3, 1925
28	W.B.	Male	16	Brookstead	Farm hand	August 7, 1925	August 16, 1925
29	W.K.	Male	19	Toowoomba	Labourer (Wheat Board)	August 8, 1925	August 17, 1925
30	S.S.	Male	26	Mt. Evelyn	Labourer	August 10, 1925	August 15, 1925
31	H.P.	Male	77	Kingsthorpe	Retired farmer	August 14, 1925	August 17, 1925
32	R.M.	Male	29	Aubigny	Horse trainer	August 19, 1925	August 20, 1925
33	P.B.	Female	19	Westbrook	Home duties	September 7, 1925	September 14, 1925
34	F.A.	Male	35	Toowoomba	Canary seed grader	September 20, 1925	October 1, 1925
35	C.V.	Male	32	Kingsthorpe	Farm labourer	September 30, 1925	October 9, 1925
36	H.B.	Male	29	Boodua	Farmer	August 15, 1925	August 22, 1925
37	H.J.	Male	50	Gowrie	Farmer	September 7, 1925	September 16, 1925
38	H.V.	Male	43	Oakey	Farmer	September 8, 1925	September 21, 1925

Abbreviations: P.A. = Present on admission.

only four cases occurred in Toowoomba itself, where the mice, although more numerous than normal, were not prevalent to anything approaching the extent that they were in the surrounding districts. Of these four Toowoomba patients, three were engaged in handling grain brought in from outside districts and heavily infested with mice.

Attempts to prove definitely that mice were implicated in the spread of this disease have not been successful. Some mice were obtained from farms on which cases of the disease had occurred. These soon started to die off when kept in captivity. Those dying were examined *post mortem* and cultures were made from their heart blood and intestinal contents. No pathogenic organism was isolated.

Guinea pigs are known to be susceptible to typhus fever and it was thought that they would be susceptible to this disease.

It was thought that if the mice were responsible for this disease, the virus was probably conveyed

from them to man by some ecto-parasite. A dead mouse was put into a cage with a guinea pig. It was considered that any ecto-parasites present would desert the dead mouse for the living guinea pig. The latter was observed over a period of four weeks and manifested no rise of temperature nor other sign of illness. At the same time a living mouse was shut up with a guinea pig, but again the guinea pig showed no signs of illness.

Guinea pigs inoculated intraperitoneally with five cubic centimetre quantities of blood taken from patients during the febrile stage of the disease, showed no rise of temperature nor other sign of illness when observed over periods of four weeks. When killed and examined *post mortem* nothing abnormal could be detected. These experiments indicate that the guinea pig is not susceptible to this disease.

The question as to whether or not this disease is typhus fever cannot yet be considered settled. In symptoms, distribution and character of the rash

TABLE I.—Continued.

Appearance of Rash.	Disappearance of Rash.	Temperature Normal.	Weil-Felix Test.		Complications.
			Date.	Agglutination.	
P.A.	July 8, 1925 . . .	July 1, 1925 . . .	June 30, 1925 . . .	C 1:10240	Deafness; dimness of vision
P.A.	June 19, 1925 . . .	June 21, 1925 . . .	June 30, 1925 . . .	C 1:640	Pulmonary congestion
P.A.	July 4, 1925 . . .	June 23, 1925 . . .	July 3, 1925 . . .	C 1:2560	Deafness; dimness of vision
June 22, 1925 . . .	July 7, 1925 . . .	June 26, 1925 . . .	July 3, 1925 . . .	C 1:640	Pleurisy
P.A.	June 23, 1925 . . .	July 5, 1925 . . .	July 25, 1925 . . .	C 1:320	Pulmonary congestion
P.A.	June 24, 1925 . . .	June 26, 1925 . . .	July 3, 1925 . . .	C 1:640	Severe earache; dimness of vision
P.A.	June 30, 1925 . . .	July 6, 1925 . . .	July 3, 1925 . . .	C 1:640	
June 26, 1925 . . .	July 7, 1925 . . .	July 11, 1925 . . .	July 3, 1925 . . .	C 1:1280	
July 2, 1925 . . .	July 7, 1925 . . .	July 16, 1925 . . .	July 9, 1925 . . .	C 1:640	
July 5, 1925 . . .	July 16, 1925 . . .	July 16, 1925 . . .	July 14, 1925 . . .	C 1:320	
P.A.	July 16, 1925 . . .	July 18, 1925 . . .	July 15, 1925 . . .	C 1:320	
P.A.	July 15, 1925 . . .	July 14, 1925 . . .	July 15, 1925 . . .	C 1:1280	
P.A.	July 18, 1925 . . .	July 24, 1925 . . .	July 24, 1925 . . .	C 1:160	Pulmonary congestion
P.A.	July 24, 1925 . . .	July 23, 1925 . . .	July 20, 1925 . . .	C 1:160	
July 9, 1925 . . .	July 19, 1925 . . .	July 18, 1925 . . .	July 15, 1925 . . .	O	Pulmonary congestion
July 13, 1925 . . .	July 18, 1925 . . .	July 19, 1925 . . .	July 25, 1925 . . .	C 1:160	
July 15, 1925 . . .	July 18, 1925 . . .	July 21, 1925 . . .	July 28, 1925 . . .	O	
P.A.	July 27, 1925 . . .	July 21, 1925 . . .	July 31, 1925 . . .	C 1:160	
P.A.	July 20, 1925 . . .	August 1, 1925 . . .	July 21, 1925 . . .	C 1:640	Pneumonia; died July 22, 1925
P.A.	July 31, 1925 . . .	August 4, 1925 . . .	July 27, 1925 . . .	C 1:320	
P.A.	August 5, 1925 . . .	August 4, 1925 . . .	August 1, 1925 . . .	C 1:40	
P.A.		August 6, 1925 . . .	August 5, 1925 . . .	C 1:1250	
July 31, 1925 . . .			August 3, 1925 . . .	C 1:640	
P.A.	August 8, 1925 . . .	August 8, 1925 . . .	August 6, 1925 . . .	C 1:160	
August 6, 1925 . . .	August 22, 1925 . . .		August 4, 1925 . . .	C 1:160	Pulmonary congestion
			August 4, 1925 . . .	P 1:160	
			August 10, 1925 . . .	C 1:640	
			August 10, 1925 . . .	C 1:80	
			August 10, 1925 . . .	P 1:320	
P.A.	August 19, 1925 . . .	August 11, 1925 . . .	August 12, 1925 . . .	C 1:1280	
P.A.	August 21, 1925 . . .	August 23, 1925 . . .	August 18, 1925 . . .	P 1:20	Bronchitis
		August 24, 1925 . . .	August 21, 1925 . . .	C 1:160	
			August 18, 1925 . . .	C 1:640	
P.A.	August 22, 1925 . . .	August 21, 1925 . . .	August 18, 1925 . . .	C 1:640	
P.A.	August 22, 1925 . . .	August 22, 1925 . . .	August 22, 1925 . . .	C 1:1280	
August 25, 1925 . . .	September 5, 1925 . . .	September 5, 1925 . . .	August 26, 1925 . . .	C 1:320	Thrombosis of vein in leg
P.A.	September 19, 1925 . . .	September 22, 1925 . . .	September 18, 1925 . . .	C 1:160	
P.A.		October 10, 1925 . . .	October 3, 1925 . . .	C 1:160	
No rash during period in hospital		October 13, 1925 . . .	October 13, 1925 . . .	C 1:5120	
P.A.	August 26, 1925 . . .	August 27, 1925 . . .	August 24, 1925 . . .	C 1:2560	
P.A.	September 21, 1925 . . .	September 22, 1925 . . .	September 23, 1925 . . .	C 1:5120	
P.A.	September 27, 1925 . . .	September 26, 1925 . . .	September 23, 1925 . . .	C 1:160	

C = Complete agglutination. O = No agglutination.

and duration of the fever it bears a close resemblance to typhus fever. The reaction to the Weil-Felix test is also very strong evidence of the identity of the two diseases. More work on this test requires to be done to determine whether it occurs in any other disease. It would be interesting to know whether it has been tried on any large number of patients suffering from Rocky Mountain spotted fever and Japanese river fever. Kelly⁽¹¹⁾ was unable to demonstrate a positive response to the Weil-Felix test in a relatively small number of patients with Rocky Mountain spotted fever.

The points against the disease being true typhus fever are the absence of lice, the absence of a response to the diazo test and the insusceptibility of guinea pigs.

Megaw⁽¹²⁾ has described a typhus-like fever in India and has classified these fevers into louse typhus, tick typhus and mite typhus.

It seems reasonable to suppose that there is a group of diseases resembling typhus fever and that this disease is a member of that group.

Summary.

A fever of about twelve or fourteen days' duration, characterized by severe headache and a macular rash on the body and limbs is described. This fever resembles typhus fever.

Conclusions.

The fever described is probably identical with that described by Hone in Adelaide.

It is not contagious.

It is probably transmitted by some ecto-parasite associated with the mouse.

There is probably a group of diseases resembling typhus fever of which this fever is a member.

Acknowledgement.

I have to thank the Medical Superintendent and the Honorary Staff of the Toowoomba General Hos-

pital and the Visiting Medical Officers of Saint Vincent's Hospital for permission to investigate the cases under their care.

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SOME URINARY COMPLICATIONS AND THEIR MANAGEMENT.¹

By S. HARRY HARRIS, M.D., Ch.M. (Sydney),
Honorary Urologist, Lewisham Hospital.

WHEN any particular line of thought is followed over a period of years, out of the crooked lane of fad and fancy there sometimes imperceptibly emerges a broad straight highway along which the seeker feels he may tread with renewed confidence and assurance.

When our Honorary Secretary asked me to contribute a paper on some urological subject of general surgical interest, it occurred to me that the time might be suitably spent in a brief consideration of three subjects of fairly general interest in which there appears to be at present no very generally adopted method of procedure, but in the manage-

ment of which it is my firm conviction that a very definite line of treatment should be followed.

The subjects in review are: (i.) Ureteral fistula and ureteral calculus; (ii.) visceroptosis and movable kidney; (iii.) postoperative retention of urine.

Ureteral Fistula and Ureteral Calculus.

Experience warrants the belief that ureteral fistula after ureterolithotomy will occur but rarely except as the outcome of some error of omission or commission at some stage in the management of the case. Prophylaxis depends not alone on nicety of operative technique, but equally also upon an accurate preoperative diagnosis and the careful selection of cases suitable for ureterolithotomy.

No one will deny the absurdity of removing a stone above a ureteral stricture and leaving behind a pyonephrotic and functionless kidney and yet this is by no means an infrequent happening and a not uncommon cause of ureteral fistula. The adequate selection of cases for operation demands a complete knowledge of: (i.) The amount of destruction of renal tissue and the possibility of its repair; (ii.) the degree and type of infection, if any is present; (iii.) the degree of ureteral obstruction which depends partly on the size, shape and mobility of the stone or stones and partly on the condition of the ureter at the site of obstruction. These are matters of X ray and cystoscopic technique and are within the range of any competent cystoscopist.

With proper management ureterolithotomy should be as regards both mortality and morbidity a most benign operation. In a personal experience of sixty-three operations of ureterolithotomy performed during the past twelve years, there has been no mortality. Among the fifty-two patients operated upon during the past nine years during which period the technique has been more or less standardized, not a single case of persistent ureteral fistula has resulted.

The procedure I ordinarily adopt when confronted with a patient with stone in the ureter, except in the case of small rapidly descending calculi which are left alone, is to perform a complete diagnostic cystoscopy and, if necessary, pyelography in order to ascertain as definitely as possible the condition of the upper portion of the urinary tract. If the renal function is unimpaired, dilatation of the lower portion of the ureter and if possible of the site of obstruction is performed and usually nothing further is attempted at this stage. Many stones pass naturally within a few days of these manipulations. Should the stone or stones not pass after the lapse of a suitable interval during which a careful watch is kept for evidence of impaction, infection and the like, further manipulation is undertaken with a view to cystoscopic removal by means of the various implements at our command.

Immediate operations without cystoscopy for acute ureteral calculous obstruction are to be deprecated, except in the most urgent and exceptional circumstances, as the pyonephrosis that is so

¹Read at a meeting of the Section of Surgery of the New South Wales Branch of the British Medical Association on September 9, 1925.

liable to be present in such cases, is a very fertile source of persistent fistula. As a matter of practical experience, one finds that in cases of acute and complete ureteral obstruction failure to pass the obstruction with a ureteral catheter is very significant of pyonephrosis.

Operative interference as a rule is undertaken only when definite impairment of renal function contraindicates less active measures or when repeated efforts at cystoscopic removal have failed.

There is no doubt that a very large majority of ureteral calculi either pass spontaneously or can be made to pass or can be removed by the means outlined above. During the twelve year period already referred to I have personally encountered two hundred and thirty-three patients with ureteral calculi (some recurrent and some bilateral), only eighty-five of whom were subjected to open operation. This is a far higher percentage than would have been the case had the patients been seen earlier and is accounted for by the fact that twenty-two required nephrectomy as a primary operation on account of advanced pyonephrosis from ureteral obstruction and that in many of the sixty-three submitted to ureterolithotomy the renal involvement was so advanced as to render further temporizing unwarranted. Of the one hundred and forty-eight not subjected to operation, all, with the exception of twelve who were lost sight of, are known to have passed their stones either spontaneously or subsequent to cystoscopic manipulation.

Further consideration might well be devoted here to the subjects of recurrence of ureteral calculus and its prevention and to bilateral calculus formation, but time forbids.

Treatment of Ureteral Fistula.

Urine sometimes leaks from the operation area in larger or smaller amounts for the first twenty-four or thirty-six hours after operation, sometimes longer even when spontaneous closure will later occur. When leakage persists until the fifth day, a large size ureteral catheter should be passed up the ureter to the kidney and retained until the leakage ceases. I have adopted this proceeding on five occasions with a satisfactory outcome, the catheter in one instance being retained for seven days. Although it is of course possible for a fistula to close spontaneously after the fifth day, should it fail to do so, it will generally be found impossible to pass a catheter beyond the hole and a persistent ureteral fistula is very liable to develop. From time to time instances have come under my notice of spontaneous closure of ureteral fistulae after many weeks. Doubtless this consummation has often enough been the devout desire of many; to few has the happy realization been vouchsafed.

Numerous patients have come into my hands with persistent ureteral fistula for whom nephrectomy had perforce to be performed despite a condition of normal functional activity of the involved kidney. Truly this should be regarded as a surgical calamity. Almost inevitably in such cases the possibility of any plastic procedure in the ureter is ruled out by the presence of sepsis and when the

opposite kidney is sound, nephrectomy becomes the operation of choice. Failing this, one of two courses may be followed, namely to leave things as they are or deviate the urinary stream at a point above the fistula. The former plan is seldom moderately satisfactory or even tolerable, the latter may take the form of a lumbar nephrostomy or ureterostomy for lesions of the ureter above the pelvic brim or possibly of a uretero-rectal implantation for low lesions of the ureter when the kidney is healthy. The first and last named of these operations I have employed with varying degrees of satisfaction.

Visceroptosis and Movable Kidney.

Movable kidney is but rarely seen apart from a more or less generalized visceroptosis. The abdominal pain and discomfort which are so frequently associated with the latter condition, are often and erroneously ascribed to the former without any attempt being made to evaluate each condition at its true worth. The too common result is either a long course of treatment directed towards retention of the kidney in the renal fossa or some form of kidney fixation by open operation. Either form of treatment in such cases is foredoomed to failure and the so numerous disappointments that have resulted from nephropexy in these circumstances, have led many physicians to an utter and absolute condemnation of the operation. This attitude is quite as illogical as that of the enthusiastic surgeon who performs a nephropexy as a panacea for all the ills to which flesh is heir. Each is based on faulty premisses. I believe that a movable kidney should always and only be subjected to nephropexy when it can definitely be proved to be pathological and definitely, too, associated with the condition for which the patient seeks relief. Complete unequivocal demonstration should be standard practice; thus and thus only can mistakes be avoided.

There are few if any movable and pathological kidneys in which no definite stigmata of disease can be found. These stigmata include in the order of comparative importance: (i.) Depression of functional activity of the affected kidney; (ii.) dilatation of the renal pelvis; (iii.) positive result to the pain reproduction test; (iv.) unilateral renal infection.

Depression of Functional Activity.

Depression of functional activity may be demonstrated by the presence of unilateral albuminuria, hæmaturia, cylindruria, decreased urea concentration, but as a rule most satisfactorily by a diminished indigo carmine secretion as compared with the opposite kidney.

Dilatation of the Renal Pelvis.

Evidence of dilatation of the renal pelvis is obtained by finding residual urine in the renal pelvis, by increase of pelvic capacity as measured by completely filling the renal pelvis or by ocular demonstration by pyelography.

Positive Pain Reproduction Test.

The pain reproduction test is carried out by slowly filling the pelvis until the patient complains

of discomfort. This test occupies a useful though subsidiary place in the diagnostic scheme, but is apt to be misleading.

Unilateral Infection.

Unilateral infection requires no explanation except the statement that when gross infection is present, the lesion will often have progressed beyond the stage when a patient can benefit by any operation short of nephrectomy. This applies also in a lesser degree to dilatation of the renal pelvis. Herein lies the greatest danger of neglect.

Treatment.

It is my experience that no form of abdominal belt, least of all that incorporating some type of kidney pad, is of the slightest value when there is definite dilatation of the renal pelvis. When, however, there is present that rare form of disease, the so-called Dietl's crises (due to axial rotation of the vascular pedicle and partial strangulation without actual pelvic dilatation) a well fitting abdominal belt or corset is sometimes of assistance and should be tried before nephropexy is undertaken.

The treatment of any associated general visceropexy is outside the scope of this paper, but patients after a nephropexy will not infrequently require the treatment appropriate for their particular disability, if the best results are to be obtained. There seems to be little doubt as Glénard has postulated, that prolapse of the kidney is invariably associated with prolapse of the corresponding flexure of the colon. My observations are in accord with those of Longyear and of Coffey when they claim that in addition to performing a nephropexy, where this is indicated, it is also necessary to hitch up the nephrocolic ligament to the *quadratus lumborum* muscle in order at the same time to secure an indirect colopexy.

In my own practice these operations number only between twenty-five to thirty, but there can be no doubt as to their value in properly selected cases.

It is scarcely necessary to state before this audience that any associated abnormality such as is not uncommonly found in the gall bladder, stomach and appendix, should, where this is indicated, receive simultaneous attention.

Postoperative Retention of Urine.

Complete retention of urine is of course quite common after, for example, operations on herniæ and hæmorrhoids in men and on the genitalia of women. In the former one or two catheterizations with perhaps the instillation into the bladder of fifteen cubic centimetres of sterile glycerine will in most cases suffice. In women, however, far more attention is often required, if further trouble is to be prevented. When catheterization has been necessary to relieve complete retention, the onset of spontaneous urination is by no means necessarily indicative of complete evacuation of the bladder contents. If measures to insure complete emptying are not taken, the condition may pass on to one of incomplete retention, though this may

also arise as a primary condition. The so-called "postural cystitis" of women after pelvic operations is very commonly due to this incomplete emptying of the bladder with or without resultant infection of the residual urine.

The recognition of this condition is important not only for the relief of any immediate discomfort but for the prevention of possible later and serious involvement of the urinary tract.

While I have for many years been more or less fully seized with the importance of this subject, it was most forcibly brought before my notice by a most tragic occurrence now nearly twelve years past.

It was the case of a single woman, aged thirty-eight years, of this city. Following an operation in a private hospital for retroversion of the uterus by external shortening during a sojourn in another State, she developed a condition of overflow incontinence immediately following operation. Unfortunately the condition was not recognized at the time and the surgeon in attendance was not apprised of her urinary irregularity until nearly four days had elapsed, when the first catheterization withdrew what was described as an enormous quantity of urine. From this time onward until I saw her several weeks later she ran a septic temperature with repeated rigors despite the inevitable vaccine treatment and bladder washes. Cystoscopic examination revealed complete pyonephrotic destruction of the right kidney and an infected early hydronephrosis of the left. After preliminary treatment a right nephrectomy was carried out and the patient eventually made a more or less satisfactory recovery with a solitary and permanently damaged left kidney.

While this is, of course, an extreme case, many examples of a lesser degree of severity have come within my purview, presenting in varying grades the symptoms of the so-called "cystitis," "pyelitis," *et cetera*. The milder cases are often readily cured by regular daily catheterization until complete spontaneous emptying of the bladder is possible. The more serious and neglected cases depend for their treatment on the actual type of lesion present.

Just as the essence of the treatment of any preventible disease is prophylaxis, so here a careful watchfulness for urinary retention, either complete with overflow or incomplete with residual urine, will do much to reduce the incidence of postoperative urinary sequelæ.

This subject is one of considerable practical importance and has not yet received the wide recognition which is its due.

THE VALUE OF THE VENTRICULOGRAM IN THE LOCALIZATION OF CEREBRAL TUMOURS.¹

By RALPH NOBLE, M.B., Ch.M. (Sydney),
D.P.M. (Cambridge),

Honorary Assistant Physician, Psychiatric Clinic, Royal Prince Alfred Hospital; Honorary Neurologist and Psychiatrist, Lewisham Hospital, Sydney.

WALTER E. DANDY, of the Johns Hopkins University, published a paper in 1920⁽¹⁾ which first brought the ventriculogram into favour, although he had reported his first few cases in 1918.⁽²⁾

¹ Read at a joint meeting of the Sections of Neurology and Psychiatry and Surgery of the New South Wales Branch of the British Medical Association on July 16, 1925.

ILLUSTRATIONS TO DR. RALPH NOBLE'S ARTICLE.



FIGURE I.—VENTRICULOGAM OF THE RIGHT LATERAL VENTRICLE.
The whole ventricle is filled with air and is clearly defined. It is normal in shape,
but dilated.

ILLUSTRATIONS TO DR. RALPH NOBLE'S ARTICLE.



FIGURE II.—VENTRICULOGAM OF THE LEFT LATERAL VENTRICLE.
Air is seen in the posterior and inferior horns only. The anterior horn is collapsed by a tumour situated in the posterior portion of the left frontal lobe.

No one will doubt the difficulty that arises in localizing many cases of cerebral tumour. Sometimes it is difficult even to decide whether the tumour is above or below the tentorium. There is no trouble in certain classes of tumour, such as pituitary tumours, precentral or postcentral lesions or tumours definitely involving the speech mechanism. When neurological examination does not permit of accurate localization, a decompression is often carried out. This operation is after all only a palliative procedure and sometimes indeed it is followed by injurious effects. Should the condition be due to a hydrocephalus, this operation will make the patient worse and therefore an internal hydrocephalus should be excluded before a decompression operation is done. No brain tumour can be cured except by operation and therefore the earlier the diagnosis and localization are made, the better is the chance of cure. The ventriculogram is an important aid in the early and accurate localization of cerebral tumours.

The technique of the procedure adopted at the Mayo Clinic is shortly as follows. The patient lies on his back with the head well elevated. Local anaesthesia is generally sufficient for a small trephine opening to be made three or four centimetres to the right of the middle line and three centimetres above the lateral sinus. A trocar and cannula are inserted through the brain substance in the direction of centre of the orbit. The needle usually enters the vestibule of the posterior horn of the lateral ventricle. Fluid is removed ten cubic centimetres at a time and is replaced by an equal amount of air until the ventricle is empty. Generally about sixty to one hundred cubic centimetres of fluid are removed. The head is lowered in order that the fluid from the anterior horn will flow backwards. The head is turned to the right and usually the fluid from the opposite ventricle goes into the empty ventricle and by withdrawing this both ventricles are emptied, but should there be a blockage, a second trephine opening is made on the left side and the same procedure is adopted. The wounds are closed with silkworm gut and X ray photographs are taken in four directions, while the patient is still on the table. One is taken with the left side of the head on the plate, the second with the right side down, the third with the occiput down and the fourth with the forehead down. The head is rotated slowly between exposures so that the air in the ventricles will not become pocketed.

Nearly all cerebral tumours either directly or indirectly affect some part of the ventricular system and thus X ray photographs of the ventricles give much valuable information. When a hydrocephalus is demonstrated by the ventriculogram, it usually restricts the tumour to the subtentorium, but when one or both ventricles show changes in size, shape or position, the most obscure tumours in either cerebral hemisphere can be accurately localized. Therefore the ventriculogram permits of early and accurate localization of the growth, when all other methods have been insufficient. Antero-posterior

views demonstrate the lateral displacement of the ventricles and, therefore, help to show on which side the tumour is situated. Sometimes both ventricles may be pushed on to one side of the brain and in such cases the size of the ventricle is often so much reduced that it is unsafe to introduce air. But even this information is of value in determining the localization of the tumour. Judicious use of the ventriculogram may thus prevent many useless and harmful operations, as precise localization can often be made.

On April 3, 1922, I heard Dandy give an illustrated lecture in New York on the ventriculogram. At that time he had used this diagnostic procedure for over four years in several hundred cases. He had three deaths in his early cases, but none since. He said that the administration of air did cause an exudation of blood into the ventricles which acted as an irritant, but it was generally absorbed within twenty-four hours. He did not like the administration of air by spinal puncture which was being carried out mainly in Germany. He showed some wonderful slides of tumours which could not be localized by other methods and he warned his audience that the procedure should be used with extreme caution and only when quite necessary.

Referring to the surgery of the brain, he said that he had often removed both the occipital and temporal lobes on the same side without any ill effects to the patient, but he would not remove the hippocampus or Broca's area. He had removed the whole frontal lobe without loss of the higher brain functions. Tumours of the third ventricle he removed from above, approaching the tumour by opening through the *corpus callosum*.

In the *Bulletin of the Johns Hopkins Hospital* of August, 1923,⁽³⁾ he drew attention to the condition of dilatation of one ventricle or abnormal shape of both ventricles in epilepsy, as seen by the ventriculogram. Often a pathological lesion responsible for the end result, namely the epilepsy, is detected in this way. He concluded that there was a physical basis for idiopathic epilepsy in a large number of cases.

Adson, Ott and Crawford in *Radiology*, 1924,⁽⁴⁾ gave an analytical study of five hundred and thirty-two cases which were diagnosed as brain tumours at the Mayo Clinic over three and a half years. Ventriculography was found of distinct value when the growth could not be localized by other diagnostic measures and it made possible the earlier detection of operable tumours and the elimination of those which were inoperable. Ventriculography was used in seventy-two cases which were divided into two groups: (i.) Those with symptoms of increased intracranial pressure without localization; (ii.) those with symptoms of slightly increased intracranial pressure.

The first group consists of forty-seven cases and of these the ventriculograms yielded a positive result in 60%. In Group II. there were twenty-five cases and the tumour was localized in 64%. Exploration was carried out in thirty of these cases

and in twenty-four of them the lesions described were verified. They were not verified in four and were misleading in two. Exploration was not carried out in the remaining cases as the ventriculogram findings indicated inoperable lesions. They concluded that ventriculography should be employed more frequently, but only as an adjunct to and after other methods of diagnosis had been exhausted.

Dr. George Davenport, of Chicago,⁽⁵⁾ reported having used the ventriculogram in twenty-eight cases without any untoward manifestations. Operation was indicated in eleven of this series and when carried out confirmed the pneumographic findings in all instances.

The first case in which the procedure has been attempted at Lewisham Hospital is that of a boy.

The patient, C.H., eighteen years of age, was admitted on September 22, 1924, complaining of vomiting on three occasions and noises in the left ear for the previous two weeks usually worse at night. He was vomiting incessantly on the day of admission and complained of dizziness on standing which would pass off in a few seconds. He had never fallen down. He complained of headache for the previous two weeks, worse in the left occipital region. About ten days before admission his friends had noticed a squint and the patient had complained of double vision.

On examination nothing abnormal was detected in chest or abdomen. The pupils reacted equally to light and accommodation. The cranial nerves were all normal with the exception of the optic nerve. There was no loss of muscular power in the limbs and no loss of sensation. The knee jerks were unequal, the left being a little more sluggish than the right. Other deep reflexes were normal. The plantar reflexes were flexor. There were no cerebellar signs.

The examination of the optic discs revealed definite papilloedema. Dr. Brearley examined the visual fields and found no contraction. Dr. Herbert Marks carried out Bárány's tests which yielded no information and nothing abnormal could be detected by him in the ears. Lumbar puncture was done, the cerebro-spinal fluid proving sterile on culture and normal in every way. No reaction was obtained to the Wassermann test. X ray examination of the skull by Dr. Harrison revealed some possible irregularity of the left mastoid cells, but no other abnormality. A diagnosis of cerebral tumour was made, the localization suggested being the left frontal region.

Ventriculography was advised, but permission could not be obtained for any operative interference whatever. The parents were warned regarding the probability of blindness, but still consent to operation could not be obtained and the patient was therefore discharged from hospital, the symptoms having been relieved by rest.

Noises in the left ear continued after discharge, vomiting returned and the vision became worse. On January 13, 1925, the left knee jerk was absent and both plantar reflexes were doubtful extensor. There was double optic neuritis more pronounced than on the previous examination. Operation was again urged and finally consent was obtained. The patient was readmitted on January 22, 1925, when the sight was practically absent. The vomiting and headache had not troubled him, but the singing in the ears still remained. On examination of the nervous system there was no perception of light, but the other cranial nerves were normal. There was no weakness of the muscular system and no abnormality of sensation. Knee jerks were unequal. There was no tremor and signs of cerebellar disease were absent.

On January 31, 1925, Dr. Monson with the assistance of Dr. King and Dr. Kinsella filled the right ventricle with air. Sixty cubic centimetres of fluid were removed and eighty cubic centimetres of air introduced. The patient did not suffer any ill effects except vomiting from the

general anaesthetic which had to be administered and on the second day he complained of a feeling of "water" running through his head when he moved. He had no idea of the operation and therefore the sensation must have been a very real one. There was no headache. Dr. Bede Harrison took X ray photographs of the right ventricle whilst the patient was still on the table. These demonstrated a perfectly normal, though dilated right ventricle. The air did not pass through the foramen of Munro to the left ventricle and therefore it was necessary to introduce air into this side of the brain.

On February 7, 1925, a similar operation was done on the left side, a smaller amount of air being injected as the amount of fluid seemed less on this side.

The ventriculogram indicated the presence of a swelling in the left frontal area pressing into the anterior horn of the left ventricle and preventing any air from proceeding into the anterior horn which was quite collapsed by the pressure of the tumour (see Figure II.). An exploratory operation in this area was, therefore, clearly indicated.

It is interesting to note that the introduction of air into the ventricles did not seem to affect the blood pressure. Before operation in each case the systolic blood pressure was 143 millimetres of mercury and the diastolic 93 millimetres. These readings were taken when the patient was rather excited before a general anaesthetic was administered and were higher than normal. Immediately after the air was injected into the ventricle the readings were 127 and 83; one hour later they were 133 and 83; one and a half hours later they were 125 and 83; two hours later they were 117 and 85; eight hours later they were 130 and 92; three days later they were 128 and 78. Somewhat similar readings were found after the second operation.

The operation to remove the tumour was carried out on February 14, 1925, by Dr. R. B. P. Monson, assisted by Dr. Stewart McKay and will be described by Dr. Monson. Fifty cubic centimetres of 4.5% sodium chloride solution were first introduced intravenously. After the dura had been opened the brain herniated. The gloved finger was passed into the inferior frontal sulcus towards the ventricle and there was a rush of serous fluid. The brain surface immediately retracted. The *dura mater* and the wound were then closed, leaving space for drainage. Complement deviation and precipitin tests for hydatid yielded no reactions.

The patient's general condition improved after the operation, but there was no return of vision. Dr. S. Hughes reported that no arteries could be seen and that there were eight dioptries of swelling on both discs, as well as retinitis. Appreciation of light has since returned in the left eye and there have been no signs or symptoms of occurrence of the tumour.

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THE SURGICAL TECHNIQUE OF PNEUMO-VENTRICULOGRAPHY WITH AN ILLUSTRATIVE CASE.¹

By R. B. P. MONSON, M.D., Ch.B., F.R.C.S.E.,
Honorary Assistant Surgeon, Lewisham
Hospital, Sydney.

DANDY in his paper of April, 1920, in *Surgery, Gynecology and Obstetrics* says:

Brain tumours as large as one's fist may exist in either cerebral hemisphere and still escape localization by expert neurologists and neurologic surgeons. A tumour of any size in either cerebral hemisphere will modify the shape, size and position of the corresponding ventricle. Quite frequently the lateral ventricle in the corresponding hemisphere will be dislocated and its size greatly modified. In many cases a ventriculogram will at once tell whether a tumour is cerebral or cerebellar; in the latter case an internal hydrocephalus will be evident by the symmetrically enlarged ventricles.

Indications for the Use of Pneumo-Ventriculography.

The indications for pneumo-ventriculography are as follows:

- (i.) To gain information as to the size and extent of the tumour.
- (ii.) When a tumour cannot be localized by other means.
- (iii.) In cases in which operation has been performed and no tumour has been found.
- (iv.) As a corroborative procedure when clinical examination and observation are not sufficiently precise.
- (v.) To determine the site or region of the obstruction in hydrocephalus.
- (vi.) To localize a tumour existing some time when Jacksonian epilepsy has suddenly developed.
- (vii.) In cases in which secondary manifestations are so pronounced as to overshadow completely the early clinical symptoms resulting from general pressure phenomena, displacement or oedema.
- (viii.) In a large proportion of cases of so-called idiopathic epilepsy there is a pathological basis and confirmation of this can be obtained by ventriculography which in a certain proportion of cases reveals acquired or congenital distortion of the ventricles.

Dr. Noble's Case.

On January 31, 1925, C.H., aged eighteen years, proved an unsuitable subject for local anæsthesia, so chloroform was given by Dr. Kinsella and a small horseshoe flap turned up to the immediate right of theinion. The centre pin of the smallest trephine was then placed on the skull three centimetres to

the right of and four centimetres above theinion. The bony disc was removed and the blood pressure registered. The patient was lying in the left prone position with the head elevated on a sandbag. A Barker's lumbar puncture trochar and cannula were then inserted for 4.5 centimetres in a plane running from the tip of the right ear to the centre of the right orbit.

On withdrawing the trochar fluid at once flowed and a twenty cubic centimetre "Record" syringe was fitted to the cannula and fifteen cubic centimetres of fluid withdrawn and replaced by air. This was done in all four times until a total of sixty cubic centimetres of fluid had been taken and replaced by air. As the apparatus used was not entirely suitable, in that a little air escaped each time during the withdrawal and reinsertion of the syringe, an additional fifteen cubic centimetres were inserted. The cannula was now quickly withdrawn and the wound closed *secundum artem*.

Immediately before operation the blood pressure was 143 millimetres of mercury (systolic) and 93 millimetres (diastolic). Immediately afterwards the figures were 127 and 83.

I was ably assisted by my resident, Dr. King. The patient was now removed from the theatre to the X ray room and the ventriculograms were taken by Dr. Harrison. Convalescence was uneventful, except that the patient complained of a rattling sensation on moving the head until the air became absorbed.

On February 7, 1925, a similar procedure was carried out on the left side at a corresponding situation, but it was possible to obtain only fifteen cubic centimetres of fluid, the last five cubic centimetres of which were bloodstained. This was replaced by twenty cubic centimetres of air. This fact in itself together with the fact that the foramen of Monro was blocked, suggested a large intraventricular tumour of the left side and was, as you will see, definitely confirmed by the ventriculogram which localizes it to the anterior half of the left ventricle.

The parents' consent to the operation was now obtained and also agreed to by the Senior Surgeon, Mr. Stewart McKay, who so kindly consented to assist me at the operation. For this I owe him a debt of gratitude.

The Operation.

Operation was carried out on February 14, 1925. Chloroform was again ably administered by Dr. Kinsella and at once fifty cubic centimetres of a 4.5% solution of sodium chloride were introduced into the median basilic vein in order to lower the intraventricular tension. This is a very rapid and efficient method of reducing ventricular tension and was first brought to my notice by Denk in Vienna. A large horseshoe shaped flap from the left external angular process of the orbit to the posterior margin of the left auricle was turned down and at Mr. McKay's suggestion the base of it was lightly clamped with gastro-enterostomy forceps to control

¹ Read at a joint meeting of the Sections of Neurology and Psychiatry and Surgery of the New South Wales Branch of the British Medical Association on July 16, 1925.

hæmorrhage. The pericranium was incised and displaced with a raspatory and a large trephine opening made in the skull. On removal of the disc of bone the congested *dura mater* bulged through the opening under great tension. The opening was enlarged with de Vilbiss's forceps. The *dura* was now carefully opened and the tense non-pulsating brain exposed. The gloved forefinger was now inserted between brain and *dura* and the brain had a tense cystic feeling. While the finger was being moved from the lateral aspect of the frontal lobe back towards the Rolandic area, there was a sudden gush of fluid and the exposed brain collapsed right in about 2.5 centimetres below the level of the skull forming a cup-shaped depression. The escaping fluid presently became definitely bloodstained and the brain now pulsated normally. Further palpation revealed no sign of any solid tumour. The site of the rupture of the cyst was not visible in the trephine opening. As Dr. Noble and Mr. McKay now agreed that we had done sufficient, I closed the wound, leaving a gap in the *dura* down to which I introduced a soft rubber drainage tube; this was brought out at the anterior margins of the scalp wound. The patient was returned to bed in good condition.

Postoperative Progress.

The patient vomited for twenty-four hours, but the volume and tension of the pulse was always good. A free discharge of bloodstained fluid came through the drainage tube. After the first twenty-four hours the fluid was no longer bloodstained, but it was copious in quantity. After a week the drainage tube was removed and replaced by gauze for three days and then the wound was allowed to close. Convalescence was uneventful.

On March 10, 1925, the patient felt splendid. He walked well. He claimed to see light. Dr. Hughes, however, reported no vision, but great diminution in the œdema. The papilloedema practically disappeared, but he had unfortunately got optic atrophy.

On March 14, 1925, the patient was discharged.

Prognosis.

The prognosis as regards any return of vision is bad, but I was pessimistic about this from the first, as once a patient has complete loss of vision prior to interference, the prognosis is always gloomy owing to the onset of optic atrophy. This was entirely due to the refusal to permit operation earlier.

As to whether the cyst will fill up again or not, only time will tell, but cysts, especially those arising from the chorioid plexus, as I surmise this may have done, not infrequently are cured by rupture and drainage. Had we been fortunate enough to operate on this man a little earlier, I think we would have been able to show you a very striking result, but even as it is I think you will agree with me that the value of ventriculography has been brought home to you by this case.

THE TECHNIQUE OF CISTERNAL PUNCTURE AND ITS APPLICATION IN THE TREATMENT OF GENERAL PARALYSIS BY ARSENICALIZED SERUM.¹

By BENJAMIN T. EDYE, M.B., Ch.M. (Sydney),
F.R.C.S. (England),

Honorary Surgeon, Saint Vincent's Hospital, Sydney;
Honorary Assistant Surgeon, Royal Prince Alfred Hospital, Camperdown; Honorary Consulting Surgeon, Saint George District Hospital, Sydney; Demonstrator in Pathology, The University of Sydney.

THE technique I follow when puncturing the *cisterna cerebello-medullaris* is that which was first described by Wegeforth, Ayer and Essick in 1919.

It was at the request of Sir John Macpherson that I undertook to carry out the procedure with the object of introducing arsenicalized serum into the *cisterna* of a patient suffering from general paralysis. The serum was prepared by Dr. A. H. Teb but from the patient's blood withdrawn the previous day one hour after an intravenous injection of "Nov-arsenobillon." In order to familiarize myself with the method I made several observations on anatomical specimens and on the cadaver. I found by measurement that the average depth from the skin immediately above the spine of the axis vertebra to the meninges which roof the *cisterna* below the posterior margin of the *foramen magnum*, is 3.4 centimetres, the lowest measurement being 2.5 centimetres and the greatest 4.5 centimetres. According to Wegeforth, Ayer and Essick the depth is rarely above five centimetres or less than three centimetres. The cerebro-spinal fluid at this level is about 1.5 centimetres in depth and therefore the medulla could not be injured unless the needle were pushed on this additional distance after entering the *cisternal* space.

The needle which I use, is that supplied with Barker's apparatus for inducing spinal analgesia. It is strong, measures eight centimetres in length, has a bevel of 0.3 centimetre at the point and will bend without breaking. As considerable force is required to push the needle through the dense structures of the suboccipital region, it is wise to use a needle which will bend under stress rather than a steel one which may break. I consider also that it is an advantage to use a needle of the above length in order that it may be firmly gripped and controlled by the hand. It should be perfectly sharp, bright and smooth to facilitate its passage. An ampoule of local anæsthetic and a hypodermic syringe for introducing it and a narrow bladed scalpel with which to puncture the skin before inserting the needle, are accessories which I prefer to use. A graduated glass cylinder is needed for collecting the cerebro-spinal fluid and also the barrel of a graduated glass syringe with thirty centimetres of tubing connected for introducing the serum by

¹ Read at a joint meeting of the Sections of Neurology and Psychiatry and Surgery of the New South Wales Branch of the British Medical Association on July 16, 1925.

gravity. The tubing is provided with a metal connexion to fit the needle and with a clip to regulate the flow of serum. The suboccipital region of the patient is shaved and prepared as for a major operation; he is placed on his right side in a good light with a pillow beneath his head of sufficient thickness to keep the axis of the spine and skull horizontal. The head is fully flexed to open up the interval between the posterior margin of the *foramen magnum* and the posterior arch of the atlas vertebra, care being taken not to rotate the head to one side or the other. With the left forefinger the upper limit of the spine of the axis vertebra is located and a point immediately above this in the midline is selected. Here after preparation of the skin a little local anæsthetic is injected and a small puncture is made with the narrow bladed scalpel. The needle is now inserted in the direction of the upper margin of the external auditory meatus and the glabella. It must be gripped firmly, since considerable force is necessary to secure its passage through the dense tissues met with. As loss of resistance is the indication that the cisterna has been entered, great caution is needed. Loss of resistance may be experienced several times during the introduction of the needle due to its entering less dense tissue; if there is any doubt, the stylette is withdrawn and the escape of cerebro-spinal fluid awaited. Should none escape, the stylette is re-inserted and the needle cautiously pushed on. If bone is encountered, the needle is partially withdrawn and raised or lowered before proceeding. When the needle does enter the cisterna the loss of resistance is very definite and easily recognized and is due to its passage through the posterior occipito-atlantal membrane and the *dura mater*, two structures which are firmly connected with each other.

The depth of the fluid in which the needle now rests, is, as stated above, 1.5 centimetres and so there is a considerable margin of safety ere the medulla could be injured. In no case without grave consideration should the needle be inserted more than five centimetres. The amount of cerebro-spinal fluid allowed to escape depends on the reason for its withdrawal.

When serum is to be introduced the quantity of fluid should correspond to the amount of serum. The serum is now allowed to run in by gravity by means of the apparatus already described.

It is advisable to have a surplus of serum as the whole cannot be introduced because of the normal pressure of the cerebro-spinal fluid which is stated to vary from forty to one hundred and fifty millimetres of water. When the flow of serum ceases, the tubing is clipped and the needle withdrawn. The puncture is dressed with sterile gauze and adhesive plaster and the patient is kept at rest for forty-eight hours if possible. The degree of reaction depends to some extent on the amount of fluid removed and the amount of serum introduced. A rise of temperature, headache and sometimes vomiting are the chief manifestations, but they rapidly subside. Apart from the danger of injuring

the medulla the risks are no greater than those attendant on lumbar puncture.

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Reports of Cases.

A CASE OF CHRONIC ENLARGEMENT OF THE TONSILS REQUIRING EMERGENCY TRACHEOTOMY.

By A. B. K. WATKINS, M.S. (London), F.R.C.S. (England),
Ear, Nose and Throat Surgeon to the Newcastle General Hospital, New South Wales.

It is so rare for chronic enlargement of the tonsils to be so great as to require tracheotomy that I consider the following case worth while recording.

On January 15, 1925, L.E., aged thirty-one, was sent to me at the Newcastle General Hospital by Dr. Barbour, of Stockton, for tonsillectomy.

He gave a history of snoring and mouth breathing for fifteen years. This had been worse for twelve months. For twelve years he had had typical epileptic convulsions. These had been more frequent recently and were occurring about thrice weekly.

On examination he was seen to have very large tonsils meeting in the midline. The upper deep cervical glands were enlarged up to 1.8 centimetres (three-quarters of an inch) in diameter and were discrete.

Apart from his epilepsy he was well. A blood count was normal and no enlargement of the spleen was found.

On February 24, 1925, whilst still on the waiting list for tonsillectomy, he was admitted with broncho-pneumonia and respiratory obstruction.

On admission his condition was as follows: His temperature was 37.8° C. (100° F.), his pulse rate was 128 and his respirations numbered 36 in the minute. He was cyanosed and partially unconscious and was roused only with difficulty. No dulness could be made out in his chest, but everywhere rhonchi were audible. On inspiration there was indrawing of the intercostal spaces, though not of the lower ribs themselves. The tonsils appeared as before.

Emergency tracheotomy was performed when much pus was coughed out of the tube. His cyanosis disappeared at once and he became normal mentally.

The pulmonary condition settled in the course of five or six days and subsequently the tonsils were removed by dissection. They proved to measure 3.3 × 4.4 × 2.8 centimetres.

Pathological examination was unsatisfactory both here and in Sydney as the tissue was unusually friable, but as far as could be determined sections pointed to no more than chronic inflammation. In view of this the length of time during which enlargement of the tonsils had been present and the subsequent history, this diagnosis is probably correct.

At present the patient is well, there are fewer epileptic convulsions, while the tonsillar fossæ are clear. The glands of neck can no longer be palpated.

My explanation of the occurrence of the acute obstruction is that he had been more severely ill at home with the broncho-pneumonia and this had reduced his general tone, including that of his pharyngeal muscles, enough to allow the tonsils completely to obstruct the airway, especially during inspiration.

Reviews.

THE CANADIAN MEDICAL SERVICES IN THE GREAT WAR.

The official history of the Medical Services of the Canadian Forces in the Great War is the most pleasing volume of medical history that has appeared.¹ Its author, Sir Andrew MacPhail, being Professor of the History of Medicine in the McGill University, has the double advantage of being a trained historian and of having had experience of some of the events he describes in such a clear and entertaining manner.

The method of treatment of the subject is indicated by a sentence in the opening chapter: "History is something more than record and something less than praise." There is no wearisome recital of the names of medical units and their journeyings, such as is inseparable from the larger histories we have read. Sufficient mention is made of all the Canadian medical units to give them a place, but they are made to appear as part of a critical survey of the whole activities of the Canadian Army Medical Corps. Apart from the names of units and individuals the descriptions of the Canadian Medical Services would serve as an account of any medical service of the British Empire; the book will therefore appeal to everyone in any way interested in the functions of the medical branch of an army. A few chapters on the administration of the service are entirely Canadian, but are so entertaining, while at the same time dealing with principles common to all nations engaging in war, that they add considerably to the interest of the book.

Brief surveys are made of the diseases of the war, the surgery of the front, special senses and the auxiliary services. In regard to the treatment of wounds the opinion is epigrammatically expressed that "antiseptics were of most value in wounds that would have healed without them," a view to which a general agreement will be accorded by many surgeons. The construction, however, placed on the term "delayed primary suture" is not that generally accepted.

There appear to have been many problems in organization similar to those encountered in the Australian medical services. A considerable number of men unfit for service was enlisted and taken to England. At one time in the hope of preventing such waste of money an order was actually issued that any recruit incapable of passing a medical examination in England should be returned to Canada at the expense of the medical officer who first passed him as fit! There was the same clamour for the drafting of Canadian patients into Canadian hospitals only and a similar inability to make such an arrangement. There was, too, much administrative controversy between Canada and London. An important step carried out in the direction of improvement was the transfer of an Assistant Director of Medical Services of a division in France to the position of Director-General of Medical Services in Canada.

In an excellent chapter on the Red Cross the difference between the Army Medical Service and the Voluntary Aid Societies embraced within the Red Cross organization is clearly defined, a difference which at the beginning of the war was not clear even to many medical officers and is still little understood by the general public. In this history Florence Nightingale is shown in a somewhat different light to that of gentle femininity in which she has so commonly been depicted.

The conflict that must occur between the civilian medical and military medical administrations of a nation at war, is discussed and the author with an admiration for army organization is clearly on the side of the latter. A point

is made and perhaps for the first time, of the burden borne at home by those medical officers who did not enlist, compared to those serving in the field.

The whole book is punctuated by gems of amusing and subtle satire and the author deals in a most delightful way with individuals and organizations of whose actions he disapproves. He speaks of "business men" as "the term that was used in those days to designate persons who were infallibly wise in giving decisions upon subjects of which they knew nothing." He also writes of a Canadian general unfairly criticising a collection of unevacuated wounded, as "willing to find fault now that the battle was over."

The Canadian Army Medical Corps was undoubtedly most efficient and the author shows this clearly. It is fortunate in having its doings so ably depicted. The author avers and repeats that it "never failed." High praise indeed.

This book well repays reading and rereading by anyone (medical or layman) with any interest in army medical matters or with a love of piquant writing. It will undoubtedly become a classic in military medical history.

NERVOUS AND MENTAL DISEASES.

UNDER the general editorial charge of Dr. Charles A. Mix a series of year books covering the whole field of recent medicine and surgery and entitled the "Practical Medicine Series" is published annually in Chicago. The issue has been proceeding for some years and its usefulness makes it deserving of the widest recognition. The volume before us is devoted to nervous and mental diseases, it has been edited as for several years previously by Dr. Peter Bassoe, Clinical Professor of Neurology in the University of Chicago and we have nothing but praise for the manner in which the Professor has performed his truly exacting task.¹

Concerning the arrangement of matter it may suffice to say that the etiology, pathology, symptomatology and treatment of all functional and organic affections of the nervous system come under review and that under mental diseases all papers of importance on mental hygiene, psychoanalysis, the psychoneuroses, *dementia precox*, other psychoses and mental deficiency are noticed.

None will disagree with the editor's prefatory statement that the most interesting feature of the past year's neurological literature has been the "trying out" of the sympathetic nervous system. In this field consideration has been specially given to the probability that the sympathetic is the prime factor in connexion with the spastic element of paralysis, as urged so cogently by Dr. Royle and John Irvine Hunter. It has also been shown that a series of other conditions, notably *angina pectoris*, localized atrophies, ulcers and trophic disorders may have relations with the sympathetic nervous system. Another advance is spoken of as the "dethronement" of the hypophysis which refers to work consequent upon the argument of the French school that the pituitary syndrome is more probably the outcome of "neurotic" than "hormonic" disease, so giving the pure endocrinologist to pause. On these matters and on many more abstracts are put before us and at the same time interesting critical remarks by the editor are interspersed and a number of instructive illustrations reproduced.

An epitome of this kind to the neurologist is more than useful, it is a necessity. The growth of neurological publications in different countries and in different languages is such that it is outside the compass of one man to read all, accordingly he must turn to epitomized versions.

¹ "Official History of the Canadian Forces in the Great War, 1914-1919: The Medical Services," by Sir Andrew Macphail, Kt., O.B.E., B.A., M.D., C.M., LL.D., M.R.C.S., L.R.C.P., F.R.S.C.; 1925. Ottawa: F. A. Acland. Royal 8vo., pp. 428.

¹ "The Practical Medicine Series, Comprising Eight Volumes on the Year's Progress in Medicine and Surgery": Under the General Editorial Charge of Charles L. Mix, A.M., M.D. Volume VIII: Nervous and Mental Diseases, Edited by Peter Bassoe, M.D.; 1925. Chicago: The Year Book Publishers. Crown 8vo., pp. 357. Price \$2.

The Medical Journal of Australia

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The Health of the Sailor.

THE British Empire owes its very existence to the love of the sea born and bred in the inhabitants of the small group of islands in the north from which Australia as a nation has sprung. From the days of Alfred the Great, who built the first British navy, down through the stirring days of Drake and Frobisher and on to the time of James Cook the sea has attracted those who must be considered among the flower of the nation. In the early days seamen had to face not only danger and death by sea and sword, but illness peculiar to their calling. In a graphic narrative of James Cook and his medical compeers, published recently in this journal, Dr. N. J. Dunlop showed that even in those days officialdom took some albeit slight steps to safeguard the health of the sailor. It may be that "a life on the ocean wave" does not hold the same fascination for the adventurous as it did in the "good old days." The passing of the "wind jammer" and the ascendancy of the modern steamship have revolutionized trade. Life at sea is more of a business and less of an adventure. At the same time the quicker voyages and the introduction of such modern appliances as refrigerators and so forth have made ship board life safer and more tolerable. Scurvy, the old time scourge of the sailor, is practically extinct, but other and serious dangers remain.

The sailor of any nation is as a rule a cheery and friendly individual, a little rough and ready perhaps, but this is largely due to the conditions under which he is compelled to live. Life in the fo'c'stle, stokehold or engine room is neither the most pleasant nor the most hygienic. There seems to be a tradition up to the present day, particularly in cargo tramps, that any sort of food cooked in any sort of fashion is good enough for the sailor. Small wonder that those who pursue this "vagrant gipsy life" find it hard to resist the friendliness of bar

and brothel in a foreign port, nor is it to be wondered at that they take their share of disease with them on their departure.

The health of seamen in Australia is the concern of the Division of Marine Hygiene of the Commonwealth Department of Health under the direction of Dr. C. L. Park. The functions of this division are as follow: maritime quarantine, control of infectious diseases in the mercantile marine, medical inspection of passengers and crews of vessels under the *Immigration Restriction Act*, sanitation in the mercantile marine, medical inspection of seamen under the *Navigation Act* and the *Seamen's Compensation Act*. In addition to this service the *Navigation Act* requires that any foreign going ship or any Australian trade ship whose journey between ports exceeds a prescribed distance and whose company amounts to one hundred persons or more, shall carry as part of her complement a duly qualified medical practitioner. It will thus be seen that the carrying of a ship's surgeon will be dependent in many instances on the presence on board of a number of passengers. It has been pointed out that quarantine regulations have been devised for the protection of the shore population from extraneous disease and not in the primary interests of the seamen. As far as Australia is concerned no seaman need find any difficulty in securing adequate medical attention. At the same time the lot at any rate of those on deep sea vessels would be made easier if the recommendations of the League of Red Cross Societies could be carried into effect.

At the third meeting of the General Council of the League of Red Cross Societies in Paris in 1924 resolutions were passed aiming at improvement in the health of those engaged in the mercantile services of the world. The subject was brought up by the Norwegian Red Cross Society and Dr. Harald Engelsen, Medical Adviser to the Norwegian Red Cross on the Health of Merchant Seamen, has appealed for publicity in regard to it in *The World's Health*. The recommendations of the Council of the League of Red Cross Societies included educational propaganda on board ship by poster, pamphlets and other means, improvement of

existing manuals on hygiene for seamen or the publication of new manuals, establishment of Red Cross health centres with clinics for medical treatment of seamen and drawing up plans for the supply of up-to-date medicine chests. In regard to propaganda and instruction of seamen no difficulty would probably be experienced. Whether Red Cross centres fashioned on the lines indicated would be useful is open to question. According to Dr. Engelsen's statement a Red Cross doctor would be appointed in each of the chief seaports of the world. It would be his duty to treat sailors of all nationalities. The sailor would be responsible for payment of fees and not the Red Cross Society of the particular country. Masters of ships would be informed where their men might apply for treatment. The doctor would receive his patients at his usual consulting rooms and would be given a badge with the Red Cross emblem, recognized by the International Red Cross Society. Records of prophylactic vaccinations, examinations and treatment could be kept in books which the individual would take with him for use if necessary at the next port of call. The scheme is idealistic. It is a question not purely of the adequate treatment of venereal disease. It is proposed that the chosen doctor shall undertake prophylactic vaccination against enteric fever, cholera, plague and small-pox as well as the treatment of ordinary accidents and illness. Venereal disease would naturally be included.

In regard to the practicability of the scheme it will be seen in the first place that there is little inducement for the sailor to consult the Red Cross doctor. It is not sufficient for him to be told that a certain doctor will treat him. He knows that any doctor will do that. According to the scheme the patient is to pay his own fees "for the present." If the whole or a large portion of the fee were to be paid for him, he would probably go to the Red Cross doctor. Another difficulty will arise from the doctor's point of view. The language problem would be serious. No one language would be satisfactory for the use of doctors in making their entries in the patient's book. If French were made the official language of this as it is of other Red Cross activities and if the appointees were limited

to those medical men who spoke French, a certain inducement would be held out to the sailor to attend the surgery of the chosen practitioner. The scheme is in many ways excellent, but it will require careful handling if it is to be brought within the range of practical politics.

Current Comment.

QUININE AND QUINIDINE IN MALARIA.

THE alkaloids of cinchona bark number fourteen and all of them have a more or less lethal influence on the malarial parasite. The four most important are quinine and quinidine, cinchonine and cinchonidine. Quinine and quinidine are isomeric substances and the former has commonly been looked upon as the methoxy derivative of cinchonine. Quinine, however, is lævo-rotatory and cinchonine dextro-rotatory. The relationship of the alkaloids is thus quinine to cinchonidine and quinidine to cinchonine. Acton has pointed out that the error in the nomenclature arose from the fact that cinchonine and quinine were isolated within a short time of one another by Pelletier and Caventori in 1820, at a time when the relationship between optical activity and constitutional formula was unknown. The mistake, once made, was copied from textbook to textbook. In 1919 Acton, Curjel and Davey found that quinine was a specific for malignant tertian malarial infections, but that in benign tertian infections, although the immediate effects were excellent, a complete cure did not often occur. They found that in benign tertian infections quinidine was more effective than quinine.

A clinical comparison has recently been made by a committee of the Medical Research Council on the efficiency of quinine and quinidine.¹ The members of the committee were four in number, Dr. H. H. Dale, F.R.S., Major H. W. Acton (who had to leave before the investigation was complete), Dr. Andrew Balfour and Lieutenant-Colonel S. P. James. The committee confined their attention to an endeavour to obtain evidence in regard to the inferiority of quinine as compared to quinidine in the treatment of benign tertian malaria. It was found impracticable to arrange for tests of the relative values of quinine and quinidine in producing final sterilization of the patient's system from the malarial parasites. It was assumed, therefore, that some indication of the curative value would be obtained by a study of the relative efficacy of the two drugs in causing disappearance of the parasites from the blood during an acute attack and of their power of preventing relapse. A schedule of suggestions together with forms on which returns should be made, were supplied to observers in ten stations in various parts of the world. The returns have been analysed. Most of them cover merely a small

¹ "Clinical Comparisons of Quinine and Quinidine," Special Report Series, Number 96, Medical Research Council of the Privy Council.

number of observations. By far the most complete and satisfactory is that by Dr. William Fletcher, of the Institute for Medical Research at Kuala Lumpur. It is published in *extenso* as a second part of the report.

In accordance with the directions of the Medical Research Council the dose of each drug was given according to the weight of the patient. Dr. Fletcher determined to give small doses, because in his opinion any difference in the action of the two drugs would be slight and he thought that large doses would mask the difference. For this reason a dose of 0.1 gramme per kilogram of body weight was given. No selection was made of the seventy-two patients observed. The first patient and all with odd numbers in order of their arrival were treated with quinine; those with even numbers were given quinidine. Dr. Fletcher's results in regard to the number of doses given before trophozoites were absent from the blood may be arranged in the accompanying table.

Type of Malaria.	Number of Patients Treated with Quinine.	Average Number of Doses Required.	Number of Patients Treated with Quinidine.	Average Number of Doses Required.
Benign Tertian ..	6	4.5	10	3.4
Subtertian ..	13	6.6	12	4.3
Mixed Tertian ..	5	9.6	3	4.0
Quartan ..	10	8.7	11	9.1

Dr. Fletcher finds that except in the case of the quartan infections, some indication is given by the results of the superiority of quinidine over quinine. In regard to the effect of treatment on the temperature in no patient did it rise about 37.8° C. (100° F.) after three days' treatment, nor was it above normal in any instance after the fifth day. In the quinine group (thirty-four men) the temperature was not above normal after the third day except in five (two benign tertian and three quartan infections). In the quinidine group (thirty-six men) the temperature was not above normal after the third day except in three (quartan infections). Dr. Fletcher points out that the infections were mild and thus were well suited for purposes of comparison of results. It was "possible to use these small doses without fear." An inquiry was made for toxic symptoms, but as none are mentioned by Dr. Fletcher, it must be presumed that none occurred.

The members of the special committee express the opinion that the conclusion is suggested by all these observations that quinidine is at least as efficacious as quinine. They regard the point of the practical equivalence of quinine and quinidine as antimalarial agents to be definitely settled. Quinidine depose quinine from the position of unique value which practice and tradition have accorded to it among cinchona alkaloids. They found no evidence in favour of Major Acton's previous suggestion that the curative actions of these alkaloids are specifically different for the different types of malarial parasite.

In considering this report it is necessary to raise the question of toxicity. The action of quinidine is best known probably in the treatment of auricular fibrillation. In view of its profound effect in this disorderly action of the heart, it would not be surprising to find a depressor action accompanying its use for any length of time in malaria. The observers other than Dr. Fletcher mention some toxic effects produced by both quinine and quinidine; these effects include such symptoms as nausea, vomiting, buzzing in the ears, giddiness, diarrhoea and albuminuria. No reference is made to cardiac effects. It is significant, however, and somewhat invalidating to the report as a whole to find appended to it a note in regard to information received from Major Acton subsequent to completion of the report. Major Acton has in several instances observed pronounced depression of the heart's action in a series of somewhat weakly and ill nourished Indian patients treated by him for malaria. He attributed these symptoms to the effect of the quinidine. Syncope was observed and in two instances sudden death took place. Since two of the patients also suffered from kala azar, the fatal results could not with certainty be attributed to the quinidine. The three remaining members of the committee express the opinion that the effect of quinidine on the heart may constitute a real drawback to its employment. It is well to note here that the patients mentioned in the report were as a rule treated for five days only. Quinine is frequently used for long periods as a prophylactic drug in malarial districts. If quinidine is to rank as an equal with quinine, it will be necessary to show that it may be used over long periods with the same degree of safety as quinine.

The members of the committee refer to the economic question of the supply of cinchona derivatives. That aspect need not be discussed in this place.

CHLORINE TREATMENT AND THE LEUCOCYTE COUNT.

INHALATIONS of chlorine have been used with benefit in the treatment of certain respiratory conditions. It has been held that this beneficial effect is due largely to a local increase in the polymorphonuclear leucocytes and to a stimulation of phagocytosis. Miss Marjorie Allen has investigated the effect of chlorine treatment on the leucocyte count in the peripheral blood of one hundred persons suffering from coryza, sinusitis and so forth.¹ A fall in the leucocyte count was noted in the majority, but in 27% an increase and not a reduction in cells occurred and in 4% the count was not altered. Consideration was given to the normal daily variations in leucocyte count and the conclusion was reached that if any transference of leucocytes to the respiratory tract occurs, it is only one of many factors concerned in the curative effect of chlorine.

¹ The Journal of Laboratory and Clinical Medicine, November, 1925.

Abstracts from Current Medical Literature.

GYNÆCOLOGY AND OBSTETRICS.

The Diagnosis of Syphilis as the Cause of Stillbirth.

JOHN F. TAYLOR AND J. FOREST SMITH (*Journal of Obstetrics and Gynecology of the British Empire*, Autumn Number, 1925) contribute notes on the diagnosis of syphilis as a cause of stillbirth. The following points are of value in making a diagnosis of syphilis in the still-born when spirochaetes have not been found in the tissues or when it is not practicable to search for them. In favour of syphilis there is enlargement of the spleen (45% of the body weight may be taken as a "border line"). The presence of chondro-epiphysitis is another sign. A reaction to the Wassermann test applied to the mother's serum is also strong evidence. If possible the test should be repeated some weeks after the puerperium. Against syphilis are the absence of maceration of the foetus and the fact that the foetus reaches full time. No evidence can be gained from the weight and length of the foetus nor from the relative weight of the liver, kidneys or placenta.

Diagnosis of Spontaneous Intra-Peritoneal Hæmorrhage.

L. VON MAYERSBACH (*Wiener Medizinische Wochenschrift*, November 21, 1925) explains that while in many cases of traumatic intraperitoneal hæmorrhage the diagnosis is easy, there are other occasions, especially in females, when considerable doubt may arise. He favours puncture of the posterior vaginal wall and aspiration of the contents of the pouch of Douglas in such cases and gives the histories of several patients to confirm his views.

Tetanus Following Criminal Abortion.

G. H. SCHNEIDER (*Klinische Wochenschrift*, December 17, 1925) describes two cases of criminal abortion followed by tetanus. Both patients died though one was treated by intensive serum treatment and the other by serum injections coupled with total hysterectomy. Bacteriological examination in each instance revealed a mixed infection of the tetanus bacillus and the streptococcus. The author appends a list of one hundred and eleven cases. He points out that the mortality was 91% and emphasizes the hopelessness of any line of treatment.

Menorrhagia.

A. SEITZ (*Klinische Wochenschrift*, October 8, 1925) divides menorrhagia into three groups. The first includes those cases in which profuse hæmorrhage is regular in type and is due to passive hyperæmia from general causes such as cardiac, pulmonary, hepatic and renal disease. He also includes hæmorrhage of the acute type

due to inflammatory diseases of the appendages. Other causes are infantile hypoplasia of the uterus and interstitial myomata. Displacements in themselves have little effect except for any associated lesions. The treatment is mainly that of the condition found to be present coupled with general tonics. The second group includes profuse hæmorrhage with shortened intervals between the periods. This is due mainly to ovarian disturbances alone or associated with inflammatory changes in the tubes. The treatment is directed towards restoring the endocrine disturbance or dealing with the inflammatory lesion. The third group comprises hæmorrhage of irregular type. During sexual life this may be caused by abortion, subinvolution, interstitial endometritis following pregnancy, ectopic gestation and early chorion epithelioma. The treatment is mainly surgical. Juvenile and preclimacteric hæmorrhages are due to ovarian changes with persistence of the follicles and glandulocystic endometritis. Patients suffering from the juvenile type are best treated with drugs and occasionally by curettage of the uterus, whilst radium or X rays are best for those whose hæmorrhage occurs at the menopause. At any age tumours, either innocent or malignant, may be the main cause of the hæmorrhage.

Gall Bladder Stasis During Pregnancy.

V. HOFFMANN (*Klinische Wochenschrift*, October 15, 1925) as a result of his observations states that owing to biliary stasis during the early months of pregnancy, attacks of biliary colic are frequently seen. Clinically the attack resembles a mild form of cholecystitis free from bacterial infection. If abortion occurs, there is frequently a stirring up of the gall bladder and resultant attacks of colic. If the abortion be a septic one, bacteria are frequently present in the gall bladder and the cholecystitis is much more severe. Treatment is medicinal at first and as a rule the gall bladder settles down after labour. When infection has occurred, the outlook is not so good.

Treatment of Abortion.

E. GRAFF (*Wiener Medizinische Wochenschrift*, October 17, 1925) gives the views of Kermauner on the treatment of abortion. In clean cases of incomplete abortion the os is dilated and the contents of the uterus are removed with the finger or the curette. In all septic cases expectant treatment is adopted and then curettage is undertaken after the temperature has become normal. Formerly several days of normal temperature were allowed to elapse, but now curettage is performed one day after the temperature has become normal.

Appendicitis During Pregnancy.

L. STOLPER (*Wiener Medizinische Wochenschrift*, October 17, 1925) considers that the incidence of appendicitis during pregnancy is fairly high. Mild attacks have no effect on the

pregnancy in many instances, whilst grave danger may arise in others. The diagnosis is frequently difficult, but accurate observation and early operation offer the best results. Especially towards the end of pregnancy the operation may present many technical difficulties. There is no need to fear the effects of labour on a new scar, neither need the uterus be emptied at the time of operation owing to this fear. Many patients suffering from repeated abortion have an associated pathological condition of the appendix.

Scarlet Fever During Pregnancy and the Puerperium.

W. J. SCHMIDT (*Wiener Medizinische Wochenschrift*, October 17, 1925) gives an exhaustive survey of the literature on scarlet fever during pregnancy and the puerperal period. The predisposition of pregnant women to the infection is not more than that of all adults. There are two types, a true puerperal scarlet fever in which the genitalia are most affected and which is analogous to that seen with wounds, and a second group in which the pharynx is mainly implicated and which is associated with a secondary spread to the genitals. The prognosis is relatively unfavourable for the first group (21.4% mortality) and much better for the second (3.6%). Scarlet fever during pregnancy usually offers a good prognosis as regards the mother, while 30% of the pregnancies end prematurely.

Association of Carcinoma and Sarcoma in the Uterus.

G. HALTER (*Wiener Medizinische Wochenschrift*, August 15, 1925) describes a case of carcinoma and sarcoma of the uterus. In the majority of cases both tumours occur in the uterine body. It is rare to find sarcoma of the body and carcinoma of the cervix. The sarcoma is usually round celled and occurs in polypi. Carcinoma most frequently occurs as an adeno-carcinoma. The pathology of the condition is still obscure.

NEUROLOGY.

Syringomyelia in Association with Acromegaly.

HENRY J. MACBRIDE (*Journal of Neurology and Psychopathology*, August, 1925) holds that the association of acromegaly and syringomyelia in the same patient has been mentioned in the literature for many years and has now become accepted as more than a coincidence. He records two cases which he regards as genuine examples of this association. Since in both these patients the signs of acromegaly appeared before those of syringomyelia, therefore the two conditions must be separate. From an embryological point of view no possible relation can be discovered to account for the association. A congenital anomaly or defect, however, might fit in with both diseases. First

splanchnomegaly has been found in acromegaly and is due to a hyperplasia of the functional cells of the affected organ. Might not a similar hyperplasia affect the spinal cord? Secondly since hydrocephaly may give rise to the symptoms of acromegaly and in association with hydrocephalus is hydromyelia, this might explain coincident signs of syringomyelia.

The Pathogenesis of Subacute Combined Degeneration.

ARTHUR F. HURST (*Brain*, Part 2, 1925) refers to his previous conclusion that the anæmia of subacute combined degeneration of the spinal cord is of the Addisonian type and not as has been supposed, a non-specific secondary variety. He points out that this view is supported by the finding that achlorhydria which is constantly present in Addison's anæmia, is also present in subacute combined degeneration. He believes that the signs and symptoms of nervous disease which are observed in about 80% of cases in Addison's anæmia, are due to subacute combined degeneration of the cord, and that the anæmia which develops in almost all patients with the spinal disease, is of the Addisonian type. Therefore the division between the two associated diseases is artificial. He brings forward further evidence to show that the nervous phenomena in both diseases are primarily due to the association of oral sepsis with the absence of free hydrochloric acid in the stomach throughout digestion and the consequent intestinal infection and toxæmia. Treatment is directed towards removing the oral sepsis and supplying hydrochloric acid.

Amyotrophic Lateral Sclerosis.

At the Annual International Meeting of Neurologists held in Paris in May, 1925 (*Revue Neurologique*, June, 1925) amyotrophic lateral sclerosis in all its aspects was discussed. Neri discussed the clinical manifestations and said that fibrillary muscular contractions still constituted the earliest and most important objective sign and that in doubtful cases electrical stimulation might bring out dormant contractions. He went on to describe other physical signs such as spasticity, the changed reflexes and attitudes, without adding much that was not already known. Among subjective indications he placed first the sense of general lassitude which might precede for months the appearance of objective phenomena. He pointed out that contrary to general belief it was not uncommon to get complaint early and late of various pains and aches. He said that mental disorder might arise, but did so infrequently. He spoke of the evolution of the disease as variable. Generally there was a somewhat silent, latent period in which signs of pyramidal tract disturbance might be disclosed. The onset was very rarely apoplectiform, but

once declared the disease proceeded implacably to death in from two to three years. On the question whether amyotrophic lateral sclerosis, progressive muscular atrophy (Aran Duchenne) and progressive bulbar paralysis were independent diseases or manifestations of the one disease Neri was non-committal and in the matter of ætiology he stated many causes had been assigned but none established. The histo-pathology of the disease was discussed by Bertrand and Bogaert. Bourguignon emphasized the diagnostic importance of the electrical reactions. Foix, Chavany and Bascourret drew attention to a pseudo-polyneuritic form of the disease in which the lesion fell mainly on the lumbosacral enlargement (proved by microscopical examination) and gave the false picture of a flaccid and atrophic paraplegia with abolished reflexes. André Léri invited attention to cases of pseudo-amyotrophic lateral sclerosis of syphilitic origin. True amyotrophic lateral sclerosis was not due to syphilis, but it was imperative in all cases to test for syphilis in order that these simulant forms which were responsive to antiluetic treatment, might be detected. Monrad Krohn indicated that whereas the plantar reflex in amyotrophic lateral sclerosis was usually extensor, there were cases in which it was flexor. In his opinion there were transition forms between chronic anterior poliomyelitis and amyotrophic lateral sclerosis. Poussepp and Rives recorded cases in support of a belief that amyotrophic lateral sclerosis was infective in character. They grounded their belief mainly on histological findings. Wimmer (Copenhagen) and Froment mentioned cases in which a clinical picture scarcely distinguishable from that of amyotrophic lateral sclerosis had followed upon epidemic encephalitis. These cases had pathogenic interest. They suggested the possibility on the one hand of an exogenous, infective or toxæmic factor, on the other of an endogenous, abiotrophic factor.

Migraine.

THE subject of migraine was chosen for discussion by the Neurological Society of Paris at the May meeting in 1925 (*Revue Neurologique*, June, 1925). Christiansen (Copenhagen) discussed the clinical aspect and indicated that while the diagnosis of migraine in classical form offered no difficulty, it was nevertheless an affection in the recognition of which practitioners other than neurologists very often made mistakes. Three ætiological features stood out, its hereditary character, its frequency in women and the early age at which it might appear. But as to the age at onset, although migraine might appear in early infancy, it more commonly did so at puberty. Apparent migraine after the age of forty years was always to be suspected as a manifestation of some organic disease. Attacks of infectious fever and blows on the head were occasional deter-

mining causes. After describing the clinical phenomena of migraine in detail, he mentioned these aberrant forms; migraine without headache or hemicrania, an aphasic form, in which the loss of speech might continue for an hour, cases in which vomiting was the chief manifestation and a cerebellar or vestibular form, characterized by ataxic or vertiginous crises. In prognosis it was safe to declare that migraine diminished either at puberty or the climacteric. In diagnosis it was important to remember that migraine was paroxysmal in attack and characterized by periods of complete normality (Charcot, du Bois-Reymond, Haller, Möbius and other eminent men suffered from migraine). Another point in diagnosis was that migraine like epilepsy might be preceded by a sensory aura; absence or presence of convulsion was the distinguishing sign. In treatment there were many recommendations, but the essential point was to concentrate more on the disposition or diathesis than on the crises. Pasteur Valléry-Radot in discussing the pathogeny of migraine thought that of the many explanatory hypotheses which had been offered, the most tenable was that the migrainous crisis resulted from a sudden disturbance of the neuro-vegetative system, angiospastic in kind. Meige drew attention to facial spasm as an accompaniment of migraine. Souques and others discussed anaphylactic relations. Léopold Lévi and others emphasized the use of thyroid medication in certain cases. André Léri showed that some supposed cases of migraine were due to tertiary syphilis and responded to specific treatment. J. A. Sicard and Hagenau referring to the treatment of migraine by peptone orally administered and carbonate of soda intravenously injected claimed good results from the intramuscular or subcutaneous injection of milk. Bouché said he had treated numerous patients by the subcutaneous injection of horse serum; he had also used cobra venom.

The Malarial Treatment of General Paralysis of the Insane.

ARNO WAERSTADT (*Psychiatrisch-Neurologische Wochenschrift*, September-October, 1925) in a long article, accompanied by a full list of what others have written, shows how the treatment of general paralysis of the insane has been advanced by malarial treatment. He points out incidentally that the effects of recently acquired syphilis have been minimized by the induction of malaria. It seems to be proved beyond doubt that in cases of general paralysis malarial inoculation acts beneficially and by the readiness with which the fever can be subdued by quinine; it is likewise proved that the treatment is without danger. At the same time the subject is full of problems and possibilities. It is not at all clear why inoculation with malaria should be followed by such remarkable results and many biological and pathological points call for elucidation.

British Medical Association News.

SCIENTIFIC.

A MEETING OF THE SECTION OF SURGERY OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held on September 9, 1925, at the B.M.A. Building, 30-34, Elizabeth Street, Sydney, Mr. E. T. THRING, the President, in the chair.

Urological Conditions.

DR. S. HARRY HARRIS read a paper entitled: "Some Urinary Complications and Their Management," (see page 266).

DR. R. J. SILVERTON agreed with Dr. Harris that conservative removal of ureteric calculi should be tried in a large proportion of cases. It was his custom in addition to dilating the ureter below the stone to cut the ureteric mouth with cystoscopic scissors and then try to pass a bougie or catheter past the stone and to leave it in position for twenty-four hours. He asked Dr. Harris whether he used the scissors for this purpose. He referred to a case in which fistula had resulted from removal of a stone 3.75 centimetres (one and a half inches) above the bladder. The stone had been small, but tightly impacted in the ureter. He had been unable to move it in an upward direction. The ureter had been cut directly over the stone. The wound had healed well, but all the urine from that side had trickled out of a small hole in it. After two weeks he had subjected the patient to cystoscopy, but had not been able to pass a ureteric catheter past the site of operation. The following day, however, the fistula had closed. This was the only case of ureteric fistula which he had experienced after ureterolithotomy. He thought that in any future case he would follow Dr. Harris's plan of using an indwelling ureteric catheter when the fistula had lasted for five days.

In regard to nephroptosis it was difficult to estimate how much of the right-sided pain was due to the kidney, for pain often arose from ptosis or mobility of the ascending colon and caecum. In movable kidney the pyelogram often revealed a sigmoid kinking of the upper end of the ureter and a response was obtained from the pain reproduction test. The renal function was nearly always good, infection was only very rarely present and in only a few instances was the pelvis dilated.

In regard to postoperative retention of urine, he would like to point out the great importance, not always realized, of avoiding the introduction of germs with the catheter especially in female patients. The whole vulva should be well cleansed with weak "Lysol" and the catheter lubricated by a one in a thousand oxymercuric of mercury jelly lubricant and then introduced cleanly into the meatus under sight and without the catheter touching the adjoining parts in any way. He was confident that if this procedure was always observed, the incidence of postoperative cystitis would be decreased if not abolished.

DR. REGINALD BRIDGE said that under no consideration should an operation be performed for an obviously movable kidney which was not producing symptoms. In dealing with a movable kidney accompanied by symptoms it was most important to determine whether the pain was merely due to a drag on the kidney supports or whether it was due to tension in some part of the renal pelvis. In the former case the pain was part of a general dragging pain due to visceroptosis and the kidney was movable just as the other abdominal organs were movable. The pain of Dietl's crisis was a classical example of the latter type. Operation in the former case was notoriously a failure, but in the latter great relief might be obtained. The ureter was only a small bored tube and was anchored to the parietal peritoneum by small strong fibrous bands. When the kidney became movable the ureter was apt to be caught up by one of these bands and kinked. This led to obstruction with a damming back of the urine in the renal pelvis and retention. Great pain was felt as

a consequence. This pain was felt through the loin as a true renal colic. In some instances the pain was felt lower down through the iliac fossa in the hip joint beyond. While a pyelogram was being taken and an artificial renal colic was being set up, a patient of even moderate intelligence had no difficulty in identifying the pain. He had found this method of the greatest value in the diagnosis of colic in the upper part of the abdomen, in some instances it was absolutely indispensable. It was his practice in treating these patients with true renal tension pain with a movable kidney to expose the kidney and ureter and to divide carefully any bands or aberrant blood vessels. It was his custom then by a simple operation to sling the kidney to the posterior abdominal wall by stitching Zackerkandl's fascia to the abdominal parietes. He did not perform any of the elaborate capsule splitting operations for suspension; mechanically this was not necessary. He had not had cause to regret doing the simpler operation.

MR. ST. J. W. DANSEY in discussing postoperative retention of urine in the male, said that he had for some years always permitted patients to sit on the edge of the bed or even to stand up under supervision in order to micturate when ordinary means of relief failed. He considered that the risk thus run was less than the danger of passing the catheter. Since adopting this method he had not found it necessary to pass a catheter and no harm had been done to the patient.

Nephropexy was an operation which he was performing less often than formerly and only when some definite kinking of the ureter was present. He considered that the best method of relieving the trouble in the thin nervous type of patient was to endeavour to increase their abdominal packing of fat. The absence of abdominal fat was after all the chief factor in the dropping of the kidney. He would like to ask Dr. Harris what method of nephropexy he practised. Recently Mr. Dansey had fixed a kidney for hydronephrosis by passing three thick catgut sutures right through the kidney substance after partially stripping the capsule and removing the perirenal fat. Three months later the result had been excellent.

DR. RUTHERFORD DARLING stated that he regarded a kidney, unduly movable behind the peritoneum either in or within its fatty capsule, as a developmental defect ill-adapted to the upright position. He was unacquainted with a floating kidney having a distinct mesonephros. Radiography had enabled surgeons to divide movable kidneys into two distinct groups, the over mobile "dropped" kidney which owing to the freedom of movement of the upper part of the ureter was not characterized by kinking of the pelvo-ureteric angle nor dilatation of the pelvis, and the more dangerous and more painful variety in which rotation on an antero-posterior axis intermittently kinked a "fixed" ureter at the pelvo-ureteric junction and thus induced dilatation of the renal pelvis.

The former group was intimately associated with right sided enteroptosis, but the doctrine that abnormal mobility of the right kidney was invariably associated with a mobile ascending colon was open to doubt, although the association was most common. Not only was knowledge of "dropped" kidney insufficient, but the forces employed to remedy the defect were often unwisely wielded and hence operative interference was not always successful. Finality on the question was of the utmost importance in order to determine whether the kidney or the ascending colon should be the object of the surgeon's attack.

From the surgeon's point of view kidney fixation operation should be limited to that group in which the kidney rotated on an antero-posterior axis (with the possible exception of a "dropped" kidney, the upper portion of whose ureter was fixed by periureteritis). When this condition coexisted with right sided enteroptosis (which was rare) two operations might be necessary, for the kidney condition could not be adequately explored through an iliac incision nor could the ascending colon be dealt with through an incision in the loin.

MR. E. T. THRING said that he had had experience of several cases in which urine had leaked after uretero-

lithotomy for more than five days and in which subsequent closure had occurred without any trouble. He had previously performed nephropexy frequently, but had not done so for some years. He considered that operation was called for when nephroptosis was accompanied by kinking of the ureter which caused symptoms. He was unconvinced that fixation or folding of the bowel was at all useful. Patients suffering from postoperative retention of urine needed every care and the catheter should always be passed under vision. He said that it was necessary to have the bladder empty not only before abdominal operations, but also before any abdominal examinations. A distended bladder could easily be overlooked in non-operative conditions such as typhoid fever. He considered that in the present days of specialization thorough training in clinical methods was essentially wanting.

DR. P. FIASCHI, O.B.E., called attention to Finkelstein's method of preventing postoperative retention of urine by filling the patient's bladder with some bland solution before operation. He had found this quite satisfactory.

DR. T. FIASCHI, D.S.O., referred to a paper on nephropexy by the late Charles MacLaurin, which had appeared some years previously in THE MEDICAL JOURNAL OF AUSTRALIA. He considered that nephropexy was a good operation which gave relief if the patient was not neurotic.

Renal Counterbalance.

DR. B. K. LEE BROWN read a paper entitled: "Renal Counterbalance."

A MEETING OF THE SECTIONS OF NEUROLOGY AND PSYCHIATRY AND OF SURGERY OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the B.M.A. Building, 30-34 Elizabeth Street, Sydney, on July 16, 1925, DR. A. W. CAMPBELL, in the chair.

Ventriculography.

DR. RALPH NOBLE read a paper entitled: "The Value of the Ventriculogram in the Localization of Cerebral Tumours" (see page 268).

DR. R. B. P. MONSON read a paper entitled: "The Surgical Technique of Pneumo-Ventriculography with an Illustrative Case" (see page 271).

DR. BEDE HARRISON gave a demonstration of radiograms of the skull, including ventriculograms.

Cisternal Puncture.

DR. B. T. EDYE read a paper entitled: "The Technique of Cisternal Puncture and its Application in the Treatment of General Paralysis by Arsenicalized Serum" (see page 272).

DR. M. J. PLOMLEY in discussing these papers stated that he had endeavoured to use the ventriculogram on infants, but the results had not been as he had desired, probably because he had not removed sufficient air to obtain satisfactory radiograms. He had used the cistern puncture in treating children for meningitis at the Royal Alexandra Hospital for Children. He claimed that it was of definite value in the treatment of such patients. He had also punctured the lateral ventricles through the anterior fontanelle.

DR. HOLZDAW, of Tennessee, United States of America, a visitor, expressed his pleasure at hearing the papers and congratulated the speakers. He also brought greetings from his own country to the British Medical Association in Australia.

DR. A. W. CAMPBELL stated that the methods of treatment discussed in the papers had come to stay. He felt that the greatest difficulty with the ventriculogram was that of interpretation. He referred to a recent view by Dandy who claimed that 50% of cerebral tumours were localizable by ordinary means and that 25% could be localized only by means of the ventriculogram. Dr. Campbell reminded the audience of the imminent danger in which the patient suffering from tumour of the brain stood and any method

which would perhaps save a life, must be welcomed. If ventriculography could save one life, it was fully justified. He referred to a method of localization by means of the injection of stained fluid into the ventricles which had been used successfully by some neurologists.

DR. MONSON in reply stated that he had used coloured fluid in one case, but he had not obtained a satisfactory result. He laid stress on the value of injection of hypertonic salt solution into the vein before operation on the brain.

DR. BEDE HARRISON mentioned the use of "Lipiodol" in localizing tumours of the spinal cord, but said that it had the disadvantage of not being readily absorbed.

NOMINATIONS AND ELECTIONS.

THE undermentioned have been nominated for election as members of the New South Wales Branch of the British Medical Association:

McFadden, Agnes Sophia, M.B., Ch.M., 1923 (Univ. Sydney), 7, Latimer Road, Rose Bay.
Underwood, Cecil Thomas, M.B., Ch.M., 1924 (Univ. Sydney), District Hospital, Tiboburra.
Yates, Arthur Charles Kingsgate, M.B., Ch.M., 1922 (Univ. Sydney), 23, Bennett Street, Bondi.

THE undermentioned have been elected members of the New South Wales Branch of the British Medical Association:

Heath, Alfred Alexander, M.B., 1925 (Univ. Sydney), 28, Wunda Road, Mosman.
Holt, John Ackland, M.B., Ch.M., 1925 (Univ. Sydney), Mental Hospital, Gladesville.
Howell, Frank James, M.B., Ch.M., 1924 (Univ. Sydney), 25, Weldon Street, Burwood.
Lindow, Albert, M.R.C.S. (England) 1886, L.S.A. (London) 1886, D.P.H., R.C.P.S. (England) 1895, Elsie Street, Homebush.
Martin, Roy Neville, L.R.C.P. (Edinburgh) 1924, L.R.C.S. (Edinburgh), 1924, L.F.P.S. (Glasgow), 1924, Thirroul.
Nelson, Mona Margaret (née Ross) M.B., Ch.M., 1917 (Univ. Sydney), 32, Holden Street, Ashfield.
Pearlman, Henry, M.B., 1925 (Univ. Sydney), Sofala.
Russell, Robert Heathcote, M.B., Ch.M., 1925 (Univ. Sydney), Silstoe Street, Hamilton.
Shallard, Kenneth Boulton, M.B., Ch.M., 1924 (Univ. Sydney), Wellington, New South Wales.
Wiles, Charles Angus, M.B., Ch.M., 1925 (Univ. Sydney), 6, Moruben Road, Mosman.
Watt, George, M.B., M.S., D.P.H., 1887 (Aberdeen), Mary Vale, Balgownie (West), New South Wales.
Andrew, Philip Oswald, M.R.C.S. (England), L.R.C.P. (London) 1896, Tuncurry.

THE undermentioned have been elected members of the Victorian Branch of the British Medical Association:

Ley, Conrad Michael, M.B., B.S., 1925 (Univ. Melbourne), Warragul.
Downie, Ewen Thomas Taylor, M.B., B.S., 1925 (Univ. Melbourne), Alfred Hospital.

THE undermentioned have been elected members of the Queensland Branch of the British Medical Association:

Geaney, Milton, M.B., Ch.M., 1921 (Univ. Sydney), M.R.C.S. (England), L.R.C.P. (London) 1924, F.R.C.S. (England) 1925, Brisbane.
Golding, W. H., M.B., Ch.M., 1923 (Univ. Sydney), Home Hill.
Furness, A.S., M.B., 1924 (Univ. Sydney), Goodna.
Fothergill, William Lewis, M.B., Ch.M., 1925 (Univ. Sydney), Barcaldine.

Medical Societies.

MEDICAL DEFENCE SOCIETY OF QUEENSLAND.

At the Annual Meeting of the Medical Defence Society of Queensland held on December 10, 1925, the following report and financial statements were adopted.

Membership.

The Society has now a membership of 277 as compared with 247 in 1924. During the year forty-three new members were elected, four left the State, one resigned and four deaths occurred. The Council regrets to record the deaths of the following members: Dr. M. L. Cameron, Dr. E. B. Reed, Dr. H. Lee Garde and Dr. Ernest Humphry.

Office Bearers Elected for 1925.

President: Dr. A. B. Carvosso.

Vice-President: Dr. J. Espie Dodds.

Honorary Treasurer: Dr. A. H. Marks.

Honorary Secretary: Dr. R. Marshall Allan.

Auditor: Mr. R. G. Groom, F.C.P.A.

Members of Council: Dr. W. N. Robertson, Dr. W. F. Taylor, Dr. Wilton Love, Dr. Kerr Scott, Dr. A. G. Anderson, Dr. D. A. Cameron and Dr. A. Stewart.

Medico-Legal.

Your Council has to report the following cases which were dealt with during the year.

A member who had been induced to take a number of shares in an insurance company on the understanding that he would be appointed medical examiner with a guarantee of not less than forty cases, wrote to ask for the support of the society in making the matter public and endeavouring to obtain redress, as he had not received one case for examination. The matter was referred to the Society's solicitors who gave the opinion that the proposed action was the outcome of an ordinary contract, even if the doctor had a good case against the insurance company, and that it was one which hardly came within the scope of the purposes for which the Society was formed; also the Articles of Association did not justify the Society in agreeing to fight the action.

In March last a member applied for the support of the Society in connexion with an action for payment of

expenses incurred by the father of a child who had been treated by the doctor for a fracture of the radius and ulna. Three months previously the doctor had treated the fracture which healed up with excellent functional result, but with deformity of the ulna owing to dorsal displacement of the lower fragment. The doctor informed the father that in order to have a perfect result the child would have to be operated on by an orthopaedist. Subsequently a claim was received from the child's father for expenses, made on the grounds of negligence and unskilful treatment. The Council decided to assist the member and the matter was placed in the hands of the solicitors of the Society. The Council also promised to arrange for a medical men to give evidence in support of the member, should it be necessary. The opinion that there was no evidence of negligence or unskilful treatment was upheld by the orthopaedist consulted by the father of the child. Nothing further has been heard of this matter.

Another claim was brought against a member for alleged unskilful operation. Three operations had been performed on a man by the doctor for epithelioma of the face in the region of the left ear between the years 1922 and 1924. At the last operation the left facial nerve had been severed, resulting in facial paralysis which was given as the reason for the claim. It was decided to place the matter in the hands of the Society's solicitors, but nothing further has transpired.

Assets.

The total assets of the Society now amount to £1,395 1s. 11d. During the year the sum of £300 was invested in 5½% Commonwealth Government Bonds, £300 of which had matured from 4½% Bonds, the balance being made up by an amount of £400 fixed deposit in the National Bank of Australasia, Limited, which had matured, and £100 taken from the current bank account of the Society.

Honorary Secretary.

Dr. R. Marshall Allan, who has been Honorary Secretary of the Society for the past six years, has relinquished this position owing to his departure from the State to take up the position of Director of Obstetrical Research at the University of Melbourne. The Council would like to place on record its high appreciation of Dr. Allan's services to the Society and the great interest he took in its affairs and wish him every success in his new sphere of work.

MEDICAL DEFENCE SOCIETY OF QUEENSLAND.

Balance Sheet as at November 30, 1925.

LIABILITIES.		ASSETS.	
	£ s. d.		£ s. d.
Accumulation Account—		Queensland Medical Land Investment Co., Ltd.—	
Balance at December 1, 1924	1,664 19 9	200 Shares of £1 each paid to 10s. per share	100 0 0
Add—Surplus of Income over Expenditure for Year ended November 30, 1925	229 0 8	Commonwealth of Australia, Treasury Bonds—	
	1,894 0 5	£200 4½% 1927, £100 5% 1927, £200 6% 1934, £300 5½% 1941 at Cost	1,300 15 0
Subscriptions Paid in Advance—		Queensland Government Treasury Bonds—	
On Account of Year 1926	1 1 6	£200 5½% 1933-38 at Cost	200 0 0
		National Bank of Australasia, Ltd.—	
		Fixed Deposit at 5% per annum—	
		£100 due April 29, 1926	100 0 0
		Cash at Banks on Current Account—	
		National Bank of Australasia, Ltd. £67 12 5	
		Commonwealth Savings Bank 125 11 9	
		Cash in Hand	1 2 9
			194 6 11
			£1,895 1 11
	£1,895 1 11		

Examined with the Books, Vouchers and Securities and found correct.

Roy G. GROOM, F.A.C.P.A.,

Auditor.

Brisbane, December 7, 1925.

ALEX. H. MARKS,

Honorary Treasurer.

MEDICAL DEFENCE SOCIETY OF QUEENSLAND.
Honorary Treasurer's Statement for Year ended November 30, 1925.

RECEIPTS.		PAYMENTS.	
	£ s. d.		£ s. d.
1924.		1925.	
December 1—		November 30—	
To cash at Banks and in Hand—		By Rent	5 0 0
Credit Balance, National		„ Exchange and Bank Charges	1 2 1
Bank of Australasia, Ltd.,		„ Secretary's Salary .. .	23 18 4
Brisbane	45 10 7	„ Audit Fee	2 2 0
Credit Balance, Common-		„ Printing and Stationery ..	7 14 6
wealth Savings Bank, Bris-		„ Postage and Duty Stamps ..	2 16 3
bane	18 14 2	„ General Expenses	0 8 6
		„ Workers' Compensation Act	
		Insurance	0 9 6
1925.		„ Federal Income Tax to No-	
November 30—		vember 30, 1924	1 17 0
To Entrance Fees—		„ State Income Tax to Novem-	
44 New Members at £1 1s.		ber 30, 1924	4 10 0
each	46 4 9		
„ Subscriptions	149 4 9	„ Legal Expenses—	
„ Subscriptions Paid in Advance—		Flower & Hart, <i>re</i> Dr. Butcher	2 2 0
On Account of Year 1926 ..	1 1 6	„ Commonwealth Treasury Bonds—	
„ Exchanges	3 4 6	£500, 5½%, 1941	500 0 0
„ Dividends and Interest—		„ Cash at Banks and in Hand—	
Queensland Medical Land In-		Credit Balance, National Bank	
vestment Co., Ltd.—Divi-		of Australasia, Ltd., Bris-	
dend on 200 Shares	5 0 0	bane	67 12 5
Commonwealth Treasury		Credit Balance, Common-	
Bonds—		wealth Savings Bank, Bris-	
Interest on £500, 4½%,		bane	125 11 9
£22 10s; £100, 5%, £5;		„ Cash in Hand	1 2 9
£200, 6%, £12	39 10 0		
National Bank of Australasia,			
Ltd.—			
Interest on £400 Fixed			
Deposit, 5%, £20; Interest			
on £100, Fixed Deposit,			
5%, £5	25 0 0		
Queensland Government			
Treasury Bonds—			
Interest on £200, 5½% .. .	11 0 0		
Commonwealth Savings Bank—			
Interest to June 30, 1925 ..	1 17 7		
„ National Bank of Australasia,			
Ltd.—			
Fixed Deposit Matured June			
1, 1925	400 0 0		
	£746 7 1		£746 7 1

THE ALFRED HOSPITAL CLINICAL SOCIETY.

A MEETING OF THE ALFRED HOSPITAL CLINICAL SOCIETY was held at the Alfred Hospital on September 29, 1925, MR. FAY MACLURE, the President, in the chair.

DR. B. CORKILL addressed the meeting, discussing in the first place the subject of jaundice and secondly Bolton's work on chloride estimations in gastric disease.

Jaundice.

DR. CORKILL first outlined the evolution of the present conception of jaundice. Foremost among workers on the question of bilirubin metabolism were the names of Van den Bergh and Aschoff. The starting point of Van den Bergh's work lay in his attempt to devise a qualitative and quantitative test for small amounts of bilirubin. By preparing a diazonium salt of sodium he was able to detect small quantities of bilirubin. He was also able to detect qualitative differences in the bilirubin content of different icteric sera. He found that some sera gave no reaction unless first treated with alcohol. This type of reaction he termed an indirect one; it was found to be characteristic of hemolytic anæmia, such as pernicious anæmia. Other sera gave a direct reaction without treatment with alcohol. This was found to occur in cases of obstructive jaundice.

Van den Bergh was then able by means of his test to distinguish two forms of bilirubin and also by utilizing the indirect test, he succeeded in determining quantitatively the bilirubin content of any serum. In terms of an artificial standard the bilirubin content of normal serum was 0.2 to 0.5 of a unit (corresponding to from one millionth to one four hundred thousandth of azo-bilirubin). It was obvious that such a test was of great value in connexion with latent jaundice.

Following the work of Van den Bergh came Aschoff's description of the reticulo-endothelial system. This system comprised a group of endothelial cells widely distributed throughout the body. In the liver these cells lined the sinusoidal spaces and were termed the von Kupffer endothelial cells.

With the aid of Aschoff's work McNee was able to formulate the newer histology of the liver lobule. He conceived this to consist of a number of radiating tubules shaped somewhat like test tubes, with the closed end towards the central vein. These tubules constituted the bile capillaries and were lined by the polygonal cells. Between adjacent tubules sinusoidal tracts coursed from the portal veins. Surrounding these spaces were the cells of von Kupffer. In birds practically the whole of the reticulo-endothelial system resided in the von Kupffer cells of the liver.

Minkowski set out to determine whether anhepatogenous jaundice existed. Experimenting on geese he caused extensive hæmolysis of their red corpuscles by poisoning with arsenuretted hydrogen. Following hæmolysis hæmoglobin was liberated and later icterus occurred. Obviously synthesis of bilirubin had occurred from the hæmoglobin, but where? Minkowski next removed the liver and then poisoning by arsenuretted hydrogen caused no icterus. From this he argued that the liver was essential for the metabolism of bilirubin and that jaundice could not occur without the cooperation of the liver.

McNee repeated these experiments, but put a totally different interpretation on his findings. He pointed out that the reticulo-endothelium system of birds was practically limited to the liver; he, therefore, put forward the hypothesis that it was the reticulo-endothelium which synthesized bilirubin and that removal of the liver in birds merely removed the latter system. Hence before the possibility of jaundice outside the liver could be denied, experiments on higher animals should be performed. The work of Mann, Whipple and others had put the case for the occurrence of a hepatogenous jaundice on a rational basis.

The present conception of jaundice was as follows: Hæmoglobin from red corpuscles was broken down and resynthesized into bilirubin by the cells of the reticulo-endothelial system. Portion of this bilirubin passed into the blood stream to give its normal content (this bilirubin yielded an indirect Van den Bergh reaction). The rest passed through the polygonal cells into the bile capillaries. In passing through the polygonal cells the pigment was modified and in this form gave rise to a direct reaction.

Dr. Corkill stated in summarizing the recent work on jaundice that the work of Van den Bergh and others had presented a plausible and practical understanding of bilirubin metabolism. On the basis of his work a classification of jaundice had been made possible. It was possible as a result of this work to detect latent jaundice and a discrimination between hæmolytic and other anæmias could be made.

With hæmolytic anæmias it was possible to demonstrate excess of serum bilirubin. This test was most useful in distinguishing pernicious anæmia from conditions such as gastric carcinoma. In both diseases achlorhydria with a film suggestive of pernicious anæmia was found, but in pernicious anæmia excess of bilirubin was nearly always present.

Dr. Corkill described Fouchet's test for the detection of latent jaundice. The reagent used contained five grammes of tri-chloroacetic acid, two cubic centimetres of a 10% solution of perchloride of iron in twenty cubic centimetres of water. For the test three drops of serum were mixed with three drops of the reagent. A greenish colouration appearing within five minutes denoted a reaction. The reaction was of use to detect latent jaundice. It was merely a quantitative test, indicating that at least 1.4 unit of bilirubin was present.

Chloride Estimations in Gastric Disease.

The work of Bolton in connexion with chloride estimations in gastric disease was also discussed.

Dr. J. F. MACKEDDIE thanked Dr. Corkill for his address. He emphasized the great advantages which the work on jaundice as outlined by Dr. Corkill had had on their conception of the subject, on diagnosis and in the control of treatment. For instance, bilirubin estimations were a safeguard in the administration of the arsene-benzol drugs and similar drugs.

Bolton's methods were difficult of application in clinical work, but of great use from the point of view of research.

Dr. J. BELL remarked that whilst Bolton's methods would be of great value in research, the fractional test meals still held pride of place as an aid to clinical diagnosis. Much work was still necessary in order that the interpretation of results might improve. Liver function tests were still of limited value.

Dr. HENRY LAURIE also thanked Dr. Corkill. He considered that Bolton's work was important, but urged that common sense was very necessary for a proper use of such tests.

University Intelligence.

THE UNIVERSITY OF SYDNEY.

A MEETING OF THE SENATE OF THE UNIVERSITY OF SYDNEY was held on February 1, 1926.

The following degree was conferred *in absentia*:

Master of Surgery (Ch.M.): T. E. Y. Holcombe.

On the report of the Deputy-Chancellor that His Majesty the King had been pleased to confer the honour of Knighthood upon the Vice-Chancellor, the following resolution was unanimously carried:

The Senate desires to place on record the hearty congratulations of the Fellows on the dignity conferred upon the Vice-Chancellor, Sir Mungo MacCallum, by His Majesty, the King.

Members of the Senate feel that the services rendered by the Vice-Chancellor to education in general and to literature in particular have been recognized to be of inestimable value and worthy of distinct merit.

The Senate hopes that Sir Mungo and Lady MacCallum will long be able to enjoy the honour which has given such satisfaction to all who know them and their work.

It was decided to issue the Diploma in Public Health to the following candidates who had recently qualified: Drs. C. Badham, E. W. Ferguson and Selina C. Puckey.

The Registrar reported the receipt of a cable message from Professor Stump in which he definitely accepted the position of Associate Professor of Anatomy.

An invitation was received from the Secretary of the Universities Bureau of the British Empire to all delegates from overseas to the Universities' Congress, 1926, to visit the Universities of Great Britain and Ireland in turn during the fortnight preceding and the week succeeding the meeting at Cambridge.

Professors E. R. Holme and A. E. Mills were appointed delegates from this University to attend the interim conference on imperial education to be held in Paris in July next.

The following examiners were appointed for the conduct of the forthcoming final degree examination:

Medicine: Acting Professor S. A. Smith, Dr. Cecil Purser, Dr. H. J. Ritchie.

Surgery: Professor F. P. Sandes, Dr. H. S. Stacy, Dr. R. B. Wade.

Obstetrics: Professor J. C. Windeyer, Dr. S. H. MacCulloch.

Gynaecology: Dr. R. L. Davies, Dr. G. Armstrong.

Clinical Medicine: Dr. C. B. Blackburn, Dr. A. W. Holmes a Court, Dr. J. Macdonald Gill, Dr. Sinclair Gillies, Dr. A. W. Fairfax, Dr. L. W. Dunlop.

Clinical Surgery: Dr. G. H. Abbott, Dr. A. Aspinall, Dr. Gordon Craig, Dr. J. L. McKelvey, Dr. St. J. W. Dansey, Dr. G. Bell.

Mr. J. K. Hawthorne was appointed Junior Veterinary Surgeon in the Department of Veterinary Science.

Dr. H. C. Adams, Tutor in Anæsthetics at Sydney Hospital, was reappointed to December 31, 1926.

Correspondence.

TREATMENT OF BOILS.

SIR: G. G. Bradley in the journal of February 20, puts the following three questions:

Question 1: Is it possible to actually stop a boil developing when it is first discovered as a small angry pimple?

Answer: Yes.

Sir Almroth Wright in his epoch-making lecture, published in *The Lancet* in August, 1907, on the principles of vaccine therapy, states: "For the treatment of bacterial infections we have, as a prime factor, a determination of

lymph from the circulating blood to the focus of infection; and as a secondary factor, a conveyance into the circulating blood of a lymph which has, in passing through the focus of infection, impregnated itself with bacterial products." "These blood fluids will exert in every case some antibacterial effect upon the invading bacteria; and in connexion with the passage of bacterial products from the focus of infection into the circulation these products will effect very important modifications in the blood in the direction of increasing the antibacterial power."

Therefore, to prevent an insignificant pimple developing into an angry boil, flush the part with the lymph of the circulating blood. That is, induce local hyperæmia. The best means at our disposal is hot water. The water must be hot, not lukewarm; not the old fashioned hot fomentation which only soddens the tissues making them an ideal breeding ground for bacteria.

Should the focus be on a finger pour some boiling water into a basin, then keep dipping the finger into the water during several minutes or until the heat can be tolerated by the finger kept immersed. Repeat this process half a dozen times or so within a couple of hours.

Should the focus be on the face or any other part which cannot be immersed, use a pad of wool. Dip this into the almost boiling water and bring it into contact with the focus; for a mere fraction of a second at first and longer as the water loses heat.

Never apply ointment, powder or wet dressings.

Question II. Is there any absolute way of preventing the appearance of further boils in a patient who has had, say two.

Answer: Yes, by means of vaccine treatment. But it is useless to fire off the vaccine like an old blunderbuss in the dark. The vaccine must be prepared from the offending organism; it must be prepared on scientific lines. The initial dose must be carefully determined, since all reactions must be avoided. Whereas one patient may stand an initial dose of two hundred millions of his own *Staphylococcus aureus*, another may experience a furious reaction with ten millions.

Should a reaction occur after any one injection, a total subsidence must be awaited before proceeding. As with tuberculin injections so also with bacterial vaccines, an optimum rather than a maximum dose must be aimed at. If a patient shows decided improvement when, say, five hundred millions have been reached, it is advisable not to go much higher, but to keep repeating that strength.

Neither must the question of the intervals be overlooked. Three days is usual during the smaller doses, but not less than seven days interval should be allowed when higher doses have been reached. Not less than twelve injections should be given.

In rare cases it may be necessary to continue the vaccine treatment for six months or even much longer; injections given fortnightly will then suffice.

Question III. What is the treatment of a "moderately large sized boil of the cheek which is in a stage some time before any fluctuation has appeared?"

Answer: Apply hot water as prescribed for Question I. Should during the hot water treatment the boil point, thus showing pus, puncture the point with a needle, just sufficient to allow the pus to be expressed. Then continue with the hot water.

Never attack such a boil with a scalpel. Never apply ointment, powder or wet dressing.

Yours etc.,

ALFRED E. FINCKH.

The Sydney Clinical Research Laboratories,
227, Macquarie Street, Sydney.
February 22, 1926.

DICHOTOMY.

SIR: The correspondence on dichotomy and your article in the journal for December 3, prompt me to make a few remarks *re* the medical profession and ethics.

As I said once before there is far too much cant and hypocrisy in the talk of the honour and dignity of the medical profession.

The great majority of medical students have as an objective the fitting of themselves for a special means of earning such a livelihood as they hope will enable them to provide for the later years of life, that is, their objective is identical with that of the average beginner in commercial or industrial life.

In commercial life today it is recognized that the surest road to success is embodied in the one word "service," that is to supply the best possible commodity to the public for an adequate remuneration.

Surely there is nothing dishonourable or undignified therein.

The most honourable and dignified course for the medical practitioner is no higher than that, it should be his aim to supply the best possible service for an honest remuneration. He is not essentially on a higher plane than a labourer, tradesman or business man, the object of each and every one should be embodied in the word "service." There is nothing dishonourable or undignified in employing a collector for remuneration honestly earned.

I have been in medical practice for over twenty years and may claim that I do not belong to the younger generation of medical practitioners, but it does appear to me that the British Medical Association's ethics of medical practice are to a great extent framed by the older and better established members of the profession and in such a way as to seriously handicap their younger professional brethren.

I do consider it most dishonourable and undignified to demand excessive fees as is so frequently done, but when has the British Medical Association taken any steps to prevent such dishonourable and undignified action? Perhaps I might answer: "When driven to do so by a lay newspaper."

As for surgical fees and dichotomy, strange to say in my brief twenty years of practice I have understood that the surgeon charged a fee for an operation and that out of that fee he paid the anaesthetist and the assistant, or rather underpaid them.

In conclusion, sir, let me emphasize the fact once more that the great majority of medical practitioners are such merely because they considered in their youthful years that it offered the best prospects for the future, that the medical man is primarily only on the same plane as the butcher and the grocer and he is honourable or dishonourable not because of the commodity he supplies, but according as he attempts to give a square deal or a crooked one.

Yours etc.,

ERNEST CULPIN.

Wickham Terrace, Brisbane.
January 14, 1926.

INDICATIONS FOR INTERFERENCE DURING PREGNANCY.

SIR: I have to thank Dr. Wawn for his letter in the journal of January 9.

Munro Kerr states in a lecture published in *Surgery Gynecology and Obstetrics*, 1911, speaking of minor degrees of pelvic contraction in relation to Cæsarean section: "I have never had to perform it late in labour in any case that was under my care at the beginning of labour and in which I computed I would effect delivery *per vias naturales*."

Lee in an article on "The Test of Labour" in the above-mentioned journal, 1922, writes: "The test of labour is obtained only by allowing labour to proceed until childbirth either results spontaneously or from operative assistance that reinforces the natural powers so that birth is through the natural passages. . . . The test of labour should eliminate subsequent consideration of abdominal section as a method of delivery for the given pregnancy."

I have no doubt the views of these authorities are well known to Dr. Wawn, but it is obvious that his teaching is opposed to theirs.

If teachers of obstetrics in Australia would collectively express their views on difficult and debatable subjects from time to time it would be of great advantage to the general practitioner. There is no problem that causes the practitioner more concern than "pelvic contraction" and its efficient treatment will largely reduce obstetric mortality and morbidity.

Yours etc.,

E. S. MEYERS.

Ballon Chambers,
Wickham Terrace, Brisbane,
January 23, 1926.

Obituary.

OLIVER LEITCH.

WE regret to announce the death of Dr. Oliver Leitch which occurred at Port Pirie, South Australia, on February 18, 1926.

THE JOHN IRVINE HUNTER MEMORIAL FUND.

THE following additional subscriptions have been received by the Honorary Treasurers of the John Irvine Hunter Memorial Fund:

Previously acknowledged	£1,914	5	3
Dr. J. Morton	10	10	0
Sydney University Amateur League Football Club	5	5	0
Dr. E. Marjory Little	5	5	0
Dr. Oliver Latham	5	0	0
Dr. Bernard Coen	5	0	0
Dr. Francis Crosslé	2	2	6
Dr. Charles E. Winston	2	2	0
Dr. William N. Horsfall	2	2	0
Dr. W. J. Long	1	1	6
Dr. E. Derrick	1	1	0
Dr. H. Halloran	1	1	0
Dr. E. S. Littlejohn	1	1	0
Dr. J. J. F. Bourke	1	1	0
	£1,956	17	3

Books Received.

- RECENT ADVANCES IN OBSTETRICS AND GYNÆCOLOGY, by Aleck W. Bourne, B.A., M.B., B.Ch. (Camb.), F.R.C.S. (Eng.); 1926. London: J. and A. Churchill. Post 8vo., pp. 344, with illustrations. Price: 12s. 6d. net.
- THE PURPOSE OF EDUCATION: AN EXAMINATION OF EDUCATIONAL PROBLEMS IN THE LIGHT OF RECENT SCIENTIFIC RESEARCH, by St. George Lane Fox Pitt; Fifth Issue, Revised; 1925. London: Cambridge University Press. Post 8vo., pp. 123. Price: 4s. net.
- THE PARENTS' BOOK, by Margaret H. Harper, M.B., Ch.M.; 1926. Sydney: Angus and Robertson, Limited. Crown 8vo., pp. 89, with illustrations.
- LEPROSY, by Sir Leonard Rogers, C.I.E., M.D., F.R.C.P., F.R.C.S., F.R.S. (Retired) and Ernest Muir, M.D., F.R.C.S. (Edin.); 1925. Bristol: John Wright and Sons, Limited; Sydney: Angus and Robertson, Limited. Demy 8vo., pp. 313, with illustrations. Price: 15s. net.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xx.

PORT DOUGLAS DISTRICT HOSPITAL, NORTH QUEENSLAND: Medical Officer.

THE BENEVOLENT SOCIETY OF NEW SOUTH WALES, RENWICK HOSPITAL FOR INFANTS, SYDNEY: Second Resident Medical Officer.

Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney.	Australian Natives' Association. Ashfield and District Friendly Societies' Dispensary. Balmmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Manchester United Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phoenix Mutual Provident Society.
VICTORIAN: Honorary Secretary, Medical Society Hall, East Melbourne.	All Institutes or Medical Dispensaries. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association.
QUEENSLAND: Honorary Secretary, B.M.A. Building, Adelaide Street, Brisbane.	Brisbane United Friendly Society Institute. Stannary Hills Hospital.
SOUTH AUSTRALIAN: Honorary Secretary, 12, North Terrace, Adelaide.	Contract Practice Appointments at Ceduna, Wudinna (Central Eyre's Peninsula), Murat Bay and other West Coast of South Australia Districts.
WESTERN AUSTRALIAN: Honorary Secretary, Saint George's Terrace, Perth.	All Contract Practice Appointments in Western Australia.
NEW ZEALAND (WELLINGTON DIVISION): Honorary Secretary, Wellington.	Friendly Society Lodges, Wellington, New Zealand.

Diary for the Month.

- MAR. 9.—Tasmanian Branch, B.M.A.: Branch.
- MAR. 9.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
- MAR. 11.—Victorian Branch, B.M.A.: Council.
- MAR. 12.—Queensland Branch, B.M.A.: Council.
- MAR. 15.—New South Wales Branch, B.M.A.: Organization and Science Committee.
- MAR. 16.—Tasmanian Branch, B.M.A.: Council.
- MAR. 16.—New South Wales Branch, B.M.A.: Medical Politics Committee.
- MAR. 17.—Western Australian Branch, B.M.A.: Branch.
- MAR. 17.—Section of Obstetrics and Gynæcology, New South Wales.
- MAR. 23.—New South Wales Branch, B.M.A.: Council (Quarterly).
- MAR. 24.—Victorian Branch, B.M.A.: Council.
- MAR. 25.—New South Wales Branch, B.M.A.: Branch (Annual).
- MAR. 25.—South Australian Branch, B.M.A.: Branch.
- MAR. 26.—Queensland Branch, B.M.A.: Council.
- MAR. 30.—New South Wales Branch, B.M.A.: Council.
- APR. 1.—South Australian Branch, B.M.A.: Council.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

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